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PRESERVATION GUIDELINES

FOR MUNICIPALLY OWNED

HISTORIC BURIAL GROUNDS AND CEMETERIES

SECOND EDITION



MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
HISTORIC CEMETERIES PRESERVATION INITIATIVE



Commonwealth of Massachusetts

Jane Swift, *Governor*

Executive Office of Environmental Affairs

Bob Durand, *Secretary*

Department of Environmental Management

Peter C. Webber, *Commissioner*

Division of Resource Conservation

Susan Frechette, *Deputy Commissioner*

Office of Historic Resources

Patrice Kish, *Director*

Historic Landscape Preservation Grant Program

Joanna Doherty, *Program Manager*

Tim Orwig, *Program Intern*

Cover Illustration: Steel engraving of "The Burial Hill" from *The Pilgrim Fathers* by William H. Bartlett, London 1854 [*Boston Public Library/ Rare Books Department, Courtesy of the Trustees*]

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Expanded and Revised

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WALKER-KLUESING DESIGN GROUP

SARA B. CHASE
OCMULGEE ASSOCIATES, INC.
CARL A. CATHCART

JOYCE CLEMENTS
SUZANNE SPENCER-WOOD

CANDACE JENKINS
SHARY PAGE BERG

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Jane Swift, Governor

Executive Office of Environmental Affairs
Bob Durand, Secretary

Department of Environmental Management
Peter C. Webber, Commissioner

Division of Resource Conservation
Susan F. Frette, Deputy Commissioner

Office of Historic Resources
Thomas E. Fox, Director

Historic Landmarks Preservation Grant Program
Susan F. Frette, Executive Manager
Catherine M. Frette, Executive Assistant

Project Consultant: Susan F. Frette
Special Staff: Susan F. Frette
1551 Bedford Street, Boston, MA 02111
CANDACE JENKINS
SHARLYN PAGE BERG

WALKER-KLUESING DESIGN GROUP

SUZANNE SPENCER-WOOD
JOYCE CLEMENTS

CARL A. CATHCART
OCMUNGE ASSOCIATES, INC.
SARA B. CHASE

June 2000, Second Edition,
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FOREWORD

On behalf of Governor Jane Swift, it is with great pleasure that we present the second edition of *Preservation Guidelines for Municipally Owned Historic Burial Grounds and Cemeteries*. This report summarizes the findings of the Massachusetts Cemetery Preservation Initiative, a unique technical assistance project begun in 1999 as part of the Department of Environmental Management's (DEM's) Historic Landscape Preservation Grant Program. Recognizing that historic burial grounds not only connect communities to their past, but also serve as critical open space, the initiative was designed to provide municipalities across the Commonwealth with tools to preserve these valuable resources.

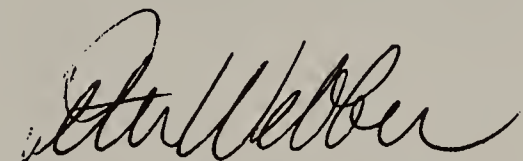
Preservation Guidelines addresses the complex challenges facing historic burial grounds, including deteriorating headstones and monuments, failing walls and walkways, aging and hazardous trees, and concerns with access and security. The first edition of *Preservation Guidelines* was released in May 2000, as DEM and the Friends of Hope Cemetery in Worcester hosted a daylong cemetery preservation workshop that was attended by over 150 people, including cemetery commissioners, local historical commission members, preservation professionals and dedicated volunteers.

The first edition of *Preservation Guidelines* received an overwhelming and positive response, earning an Honor Award from the American Society of Landscape Architects. In addition, cities and towns across Massachusetts took immediate action, seeking grants and using scarce municipal dollars to draw up comprehensive plans and address their most pressing needs. As word spread, many people requested copies of the guidelines, and the first printing was quickly depleted. DEM took the opportunity to refine and expand *Preservation Guidelines*, incorporating nine more case studies, bringing the total to 32 sites in 29 communities. The second edition of *Preservation Guidelines* includes historic burial grounds and cemeteries founded between 1642 and 1890, in communities ranging from Worthington and New Marlborough in the west to Rockport and Tisbury on the Atlantic coast.

The second edition of *Preservation Guidelines* reflects the continued efforts of the Executive Office of Environmental Affairs to preserve and protect the full range of landscape resources that define the unique character of each of our communities. DEM's Office of Historic Resources, in collaboration with the Massachusetts Historical Commission, managed the project. The Statewide Advisory Committee of DEM's Historic Landscape Preservation Grant Program provided valuable guidance and oversight to the project. Our appreciation goes to Walker-Kluesing Design Group for their successful implementation of the Cemetery Preservation Initiative and the production of this report. Most importantly, we thank the municipal partners – staff and volunteers – whose assistance and dedication have made this project possible.



Bob Durand, Secretary
Executive Office of Environmental Affairs



Peter C. Webber, Commissioner
Department of Environmental Management

1. The first part of the paper discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the success of any business or organization. The author provides a detailed overview of the various methods used to collect and analyze data, highlighting the strengths and weaknesses of each approach. The paper then moves on to discuss the importance of maintaining accurate records of all transactions, emphasizing that proper record-keeping is essential for the success of any business or organization.

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*Memorial entrance gate
Riverview Cemetery, Groveland*



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STATEWIDE ADVISORY COMMITTEE

Debbie Cary, Director
Broad Meadow Brook Wildlife Sanctuary
Massachusetts Audubon Society / former
DEM Board Member
Margaret Dyson, former President
Historic Massachusetts, Inc. [1999-2001]
Susan Edwards, Director of Historic Resources
The Trustees of Reservations
Corliss Engle, Horticulturist and Garden Writer
Dr. Julius Gy. Fabos
Department of Landscape Architecture,
University of Massachusetts [1997-2000]
Elsa Fitzgerald, Assistant Director
Massachusetts Historical Commission
Betsy Shure Gross, Special Assistant to the
Secretary for Community Preservation
Executive Office of Environmental Affairs
James W. Igoe, President
Historic Massachusetts, Inc.
Robin Karson, Director
Library of American Landscape History
Edith Makra, Urban Forestry Program
Coordinator / Department of Environmental
Management
Professor John Martin
Department of Landscape Architecture,
University of Massachusetts [1997-2001]
Judith McDonough, former Executive Director
and State Historic Preservation Officer
Massachusetts Historical Commission
Lauren Meier, Historical Landscape Architect
National Park Service, Olmsted Center for
Landscape Preservation
Nora Mitchell, former Director
National Park Service, Olmsted Center for
Landscape Preservation [1997-1999]

Professor Keith Morgan
Department of Art History, Boston
University
Eric O'Brien, Director
Massachusetts Recreation Park Association
[1997-2001]
Leslie Reed-Evans, Director
Williamstown Rural Lands Foundation
[1997-1999]
Phillip Rodbell, Director of Urban Forestry
Department of Environmental Management
[1997-2000]
Clarissa Rowe, Chair of the Board
Historic Massachusetts, Inc. [2000-2001]
Jennifer Jillson Soper, Regional Planner
Executive Office of Environmental Affairs
[1998-2001]
Michael Steinitz, Survey Director
Massachusetts Historical Commission
Liz Vizza, ASLA
Boston Society of Landscape Architects
[1997-2000]
Wes Ward, Director for Land Conservation
The Trustees of Reservations [1997-2000]

MASSACHUSETTS HISTORICAL COMMISSION

Cara Metz, Executive Director and State
Historic Preservation Officer
Betsy Friedberg, Director, National Register
Program
Ed Bell, Senior Archaeologist

OTHER REVIEWERS

James C. Fannin, Jr., Senior Associate, Fannin-
Lehner / Association for Gravestone Studies
Janet Heywood, Director of Interpretive
Programs, Mount Auburn Cemetery
Meg Winslow, Curator of Collections,
Mount Auburn Cemetery

LOCAL COMMUNITIES

Margaret O. Alexander, Historic Commission,
East Bridgewater
Christy Anderson, Trustee, Riverside Cemetery,
Sunderland
John Archer, Historic Commission, Danvers
Wilma Armer, East Bridgewater
Dorothy Baldini, Trustee, Cemetery
Commission, Brookline
Tanya G. Beecher, Friends of Northampton
State Hospital Burial Ground, Northampton
Kate Begin, Trustee, Cemetery Commission,
Brookline
Ann Birkner, Historical Commission, Peabody
Paul V. Boothroyd, Historic Commission,
Maynard
Donald J. Borchelt, Executive Director, Woburn
Redevelopment Authority, Woburn
Maureen Boundis, Cemetery Commission,
Dudley
Bob Briere, Historic Commission, Sturbridge
Rosemary H. Burns, Historical Commission,
Mashpee
James E. Casselman, Landscape Architect, Park
and Forestry, Brookline
Betty Cassidy, Historical Commission, Peabody
Laura Centofanti, Coordinator, Mayor's Office
of Community Development, Everett
Hamer D. Clarke, Director, Department of
Public Works, Southbridge
Charles Clemens, Historic Commission,
Danvers
John J. Clifford, East Bridgewater
Marty Coulbourn, Historic Commission,
Rockport
Mark Cullinan, Town Administrator, Nahant
Al Dapolito, Historic Commission, Rockport
Elizabeth Debski, Director, Mayor's Office of
Community Development, Everett

Frank Feakes, Historical Society, Worthington
 Marsha Feakes, Historical Society, Worthington
 Wayne M. Feiden, Director, Office of Planning
 and Development, Northampton
 Thelma Fleishman, Newton
 Gerard P. Flood, Assistant Superintendent of
 Public Works, Maynard
 C. Vernon Gaw, Historical Commission,
 Sterling
 Dick Graves, Trustee, Riverside Cemetery,
 Sunderland
 Harry Green, Cemetery Commission, New
 Marlborough
 Nancy Hall, Chair, William Street Historic
 District Commission, Tisbury
 Lucy Hankee, Cemetery Commission, New
 Marlborough
 John B. Hayes, Caretaker, East Bridgewater
 Walter C. Higgins, Littleton
 D. Kerry Holland, Massachusetts Department
 of Mental Health, Northampton
 Barbara L. Hopson, Massachusetts Department
 of Food and Agriculture, Northampton
 Suzanne V. Horne, Town Administrator,
 Dudley
 Mike Jaffe, New Marlborough
 Brian Kolner, Executive Director, Braintree
 Historical Society, Inc., Braintree
 Russell M. Lane, Trustee, Riverside Cemetery,
 Sunderland
 Fred LaPiana, Director, Department of Public
 Works, Tisbury
 Valerie Lavender, Historical Commission,
 Northampton
 Ralph Levy, House Majority Leader staff,
 Northampton
 Doris Linden, Historic Commission, Danvers
 Koren Lowenthal, Brimfield
 Grace Lyons, Historic Society, Marlborough
 Maryanne MacLeod, Historical Commission,
 Sterling
 Steve Main, Cemetery Foreman, Millis

James Malloy, Town Administrator, Sturbridge
 John Manning, Douglas
 Bob Melker, Massachusetts Department of
 Mental Health, Northampton
 Roland Nelson, Historical Commission,
 Sterling
 John Ormsby, Selectman, New Marlborough
 Henry Pelletier, Cemetery Manager, Brimfield
 Ted Porter, Worthington
 Leigh Potter, Chair, Cemetery Commission,
 Mashpee
 William Power, Chairman, Historical
 Commission, Peabody
 Irving Priest, Assistant Director, Millis
 Carlton M. Ray, Director of Public Works,
 Rockport
 Roger Reed, Preservation Planner, Brookline
 Mary Rose, Douglas
 Gretchen Schuler, Preservation Planner,
 Department of Planning and Development,
 Newton
 Alan Scott, Massachusetts Department of
 Mental Health, Northampton
 Elizabeth H. Sillin, Chair, Sunderland Historic
 Commission, Sunderland
 John D. Sisson, Chair, Historical Commission,
 New Marlborough
 Thomas A. Smith, Assistant to the Mayor,
 Woburn
 John Sousa, Jr., Superintendent of Cemeteries,
 Chelmsford
 J. Campbell Soutter, Peabody Historical
 Commission, Peabody
 Robin Toast, New Marlborough
 Fran Towle, Deputy Commissioner, Parks and
 Recreation Department, Newton
 Kristine Trierweiler, Assistant Town
 Administrator, Medfield
 Marie Vandale, Chair, Old Cemetery
 Commission, Spencer
 Alan Weinberg, Conservation Department,
 Braintree

J. P. Welch, Cemetery Commission,
 Worthington
 Christopher White, General Foreman, Forestry,
 Parks and Cemeteries, Marlborough
 Jean White, East Bridgewater
 Ann M. Whitlow, Mashpee Historical
 Commission, Mashpee
 Robert Whritenour, Jr., Town Administrator,
 Mashpee
 Paul R. Willis, Director, Park, Forestry,
 Cemetery, Conservation, Brookline
 Jack Zajkowski, Selectman, Dudley
 Fran Zanker, Department of Public Works,
 Marlborough
 Deborah Zompa, Assistant Planner, Danvers

CONSULTANT TEAM

Walker•Kluesing Design Group

Preservation Planning, Landscape Architecture
 and Project Coordination

Sara B. Chase

Preservation Technology Consulting

Ocmulgee Associates, Inc.

Structural Engineering Consulting

Carl A. Cathcart

Arborist Consulting

Joyce M. Clements

Historical Archaeology Consulting

Suzanne Spencer-Wood

Historical Archaeology Consulting

Candace Jenkins

Historic Research Consulting

Shary Page Berg

Historic Research and Preservation Planning
 Consulting

*Stone carving detail,
Cambridge*



INTRODUCTION

SIGNIFICANCE OF HISTORIC BURIAL GROUNDS AND CEMETERIES

The historic burial grounds and cemeteries of Massachusetts are vital elements of the Commonwealth's cultural heritage. They are often the oldest surviving remnants from the early years of a community and represent important social, historic, architectural and archeological artifacts. In addition to their historic value, many of these significant cultural landscapes must also meet contemporary needs.

Burial grounds and cemeteries are important public spaces with a vital link to the past. These sites tell a story of evolving burial and mourning practices, from the bleak Puritan graveyards to the richly ornamented rural cemeteries of the 19th century. When little else may remain intact from the beginnings of a city or town, the burial ground with its stone walls, mature trees and dirt paths can often evoke the early history of a community. As open space becomes more and more scarce and undeveloped land is increasingly used for other purposes, burial grounds and cemeteries remain places for solitude, contemplation and reflection.

These properties are considered not only public open space and areas of respite, but also outdoor museums. Unlike traditional museums, these sites present a permanent collection of rare three dimensional artifacts, some of which have remained in place more than 300 years. These historic artifacts are a finite and deteriorating resource that need preservation and protection from damage by weathering, vegetation and vandalism, as well as deferred and inappropriate maintenance practices.

The gravestones, monuments, memorials and tombs found within the cemetery landscape commemorate the lives of many generations of citizens, from founding members of a community and the state to Revolutionary and Civil War heroes to the newest immigrants. These important artifacts are a unique historic and genealogical record, sometimes representing the only source of the history of an entire town. Some of these stone carvings represent some of the earliest art and written history available in the United States. Many also reflect an important artistic legacy, displaying the work of a long tradition of skilled stone carvers and documenting the evolution of funereal iconography.

Each site needs to be dealt with in a coherent way that recognizes its historic importance, contemporary interpretive purpose and passive public use.

The cemetery as part of everyday life in early America



THE MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

The Historic Landscape Preservation Grant Program [HLPGP] is a state funded competitive grant program established in 1997 to support preservation and restoration of publicly owned landscapes listed on the National Register of Historic Places. In the course of its first three grant rounds, the HLPGP received numerous proposals addressing critical preservation and stabilization needs at historic municipally owned cemeteries and burial grounds. The majority of these proposals came from smaller, rural towns where burial grounds and cemeteries may represent the most significant and/or only historic landscape owned by the municipality. In response to this need, the Department of Environmental Management [DEM] set aside funds from the FY 1999 and FY 2000 Historic Landscape Preservation Grant Program to initiate a year long Historic Cemeteries Preservation Initiative. Because of the interest generated by the first year's efforts, the DEM expanded the program in FY 2001 to include additional properties across the state. This project has been managed by DEM's Office of Historic Resources in collaboration with the Massachusetts Historical Commission [MHC].

The Massachusetts Historic Cemeteries Preservation Initiative has begun to address the pressing needs of municipal cemeteries and burial grounds. It has taken important steps to document, evaluate and make preservation recommendations for 32 burial grounds and cemeteries in 29 communities across the state, as well as providing training, technical assistance and preservation guidelines that are applicable to other historic municipal burial grounds and cemeteries.

As a group, and sometimes individually, these sites illustrate important developments in the evolution of graveyard design ranging from domestic homestead graveyards, to churchyard burial grounds, to public graveyards, to rural cemeteries, to lawn park cemeteries. The range of landscape expression of these graveyard types also portrays evolving societal attitudes toward death and immortality.

Municipal burial grounds and cemeteries are often among the oldest and most significant graveyards in a community, frequently containing the graves of the earliest inhabitants. As public properties, historic cemeteries and burial grounds present many unique preservation challenges, including damaged and vandalized headstones, deterioration of older walks and enclosures, and aging and hazardous trees.

Inactive sites [closed to further burials] and active sites face different challenges. The majority of the sites examined are inactive. Because they are no longer in active use and not generating revenue, inactive cemeteries must compete with other municipal priorities for funding. Resources for basic maintenance are almost always scarce, while funds for capital repairs are virtually nonexistent. Municipal cemetery managers often lack the specialized technical skills to resolve structural and conservation problems and face difficult decisions regarding priority setting.

Once a burying ground or cemetery is closed it can quickly turn from a community asset into a liability. When a property like this stops generating an income and serving a recognized civic purpose, it only creates expenses, and often there is no one to maintain or watch over it. This leads to abandonment and further neglect.

Despite these pressing needs, few historic burial grounds or cemeteries have condition assessments, inventories, master plans or preservation maintenance plans to guide their management or care. While there is some excellent material prepared by advocacy organizations and municipalities, primarily related to headstones, there is very little easily accessible written information focusing on the overall care of this historic landscape type, and, in particular, balancing the needs of competing resources such as trees and burial markers.

Finally, even where adequate preservation planning has been done, few burial grounds and cemeteries have been listed on the National Register of Historic Places, or have been determined eligible for listing. This precludes them from receiving construction funds from programs such as DEM's Historic Landscape Preservation Grant Program, or MHC's Massachusetts Preservation Projects Fund [MPPF].

PURPOSE AND GOALS OF THE PRESERVATION GUIDELINES

These guidelines offer a compendium of information directly related to the preservation, restoration, rehabilitation, reconstruction, management and care of the Commonwealth's municipally owned historic burial grounds and cemeteries.

Specific goals of the guidelines include:

- Restoration and rehabilitation of these historic resources in a contemporary context,
- Reinforcement of an overall image compatible with the historic assets of these properties,
- Improvement of accessibility, and
- Increasing passive recreation and educational opportunities.

The individual preservation master plans and implementation plans included in the Case Studies portion of this report can also serve as models for both long and short term planning and improvements at other historic burial grounds and cemeteries.



Obelisk detail, Chocksett Cemetery, Sterling

ORGANIZATION OF THE DOCUMENT

This document begins with general information on the historic background of burial ground and cemetery development in Massachusetts. This is followed by guidelines for preservation planning which include site documentation, condition assessment, evaluation of significance and integrity and priority setting.

General recommendations are provided next for historic burial ground and cemetery components, with a brief discussion of why certain recommendations are made and how to accomplish them. Recommendations related to issues of administrative management follow. These two sections contain references to individual case studies which serve as examples of the issues being discussed.

Case studies or site specific assessments and prioritized recommendations are included for each of the properties examined in this program. While the assessments should not be considered to be in depth, they are sufficient to offer basic guidance to each community. The site plans have been developed to a concept level. Locations of specific elements on most of the plans are approximate and based upon assessors maps with field observations. Few communities have detailed topographic surveys which are necessary to implement many types of improvements.

Organized by date of establishment, the sites include:

First Burial Ground, Woburn [1642]
Vine Lake Cemetery, Medfield [1651]*
East Parish Burial Ground, Newton [1660]
Spring Hill Cemetery, Marlborough [c1660]
Riverside Cemetery, Sunderland [1714]*
Prospect Hill Cemetery, Millis [c1714]*
Elm Street Cemetery, Braintree [1716]
Walnut Street Cemetery, Brookline [1717]
Center Cemetery, Brimfield [1720]*
Old Burying Grounds, Littleton [1721]
Old Burial Ground, East Bridgewater [c1724]
Old Parish Burying Ground, Rockport [c1732]
Corbin Cemetery, Dudley [c1735]*
Chocksett Cemetery, Sterling [1736]
Old Burial Ground, Sturbridge [c1740]
Old Cemetery, Spencer [1742]
Center Cemetery, Douglas [c1746]*
New Marlborough Cemetery,
New Marlborough [1755]*
Pope Cemetery, Peabody [1755]
High Street Cemetery, Danvers [1758]
Village Cemetery, Tisbury [c1770]
Center and Ringville Cemeteries, Worthington
[c1770]*
Oak Ridge Cemetery, Southbridge [1801]*
Roxanna C. Mye, Pocknett and William Jones
Burial Grounds, Mashpee [c1800s]
Riverside Cemetery, North Chelmsford [c1841]
Greenlawn Cemetery, Nahant [1858]*
Northampton State Hospital Burial Ground,
Northampton [1858]
Glenwood Cemetery, Maynard [1871]*
Glenwood Cemetery, Everett [1890]*

** Indicates sites that remain active*

The appendices contain information on grave marker inventory and a selected bibliography for further reading.

Cemetery in a rural area

"While the old places of sepulture are usually unattractive save to the antiquary and those curious in old epitaphs, nothing is more characteristic of New England."

Francis Drake, 1878



HISTORICAL BACKGROUND ON BURIAL GROUND AND CEMETERY DEVELOPMENT IN MASSACHUSETTS

The burial grounds and cemeteries of Massachusetts are one of the richest cultural and historic records of our past. In addition to providing specific genealogical information about our ancestors, they also tell a broader story about evolving attitudes towards death, burial and public landscapes. However, this significant cultural legacy is often a subtle and fragile message that is not well documented or understood.

The diversity in the character of the historic burying grounds and cemeteries across the Commonwealth reflects the unique and identifiable quality special to each community. There is a significant difference between the sterile plainness of the old graveyards and the beautiful grounds and flowers of the charming Victorian cemeteries that followed. Sketches and etchings of the early 1800s tend to show burying grounds in a much more barren condition than photographs from the 1850s through the turn of the century. These later photographs illustrate the Victorian influence with more decorative elements and heavier, more mature plantings.

Puritan Graveyards

The 17th century Puritan graveyards of Massachusetts were literally boneyards, simply a place of burial and often located on infertile or leftover land considered undesirable for other uses. They reflected the general austerity and difficulty of life during this period and were intentionally unwelcoming as Puritans wanted as little as possible to do with the place of the dead.

The earliest graveyards might house the graves of an extended family or a small community but typically had only a few graves, which often faced west towards the setting sun, but were otherwise laid out with little formal organization. The overall appearance was barren, with rough, uneven topography from frequent digging, poor grass cover, few trees or other plants and no attempt at embellishment. Pathways were few because space was at a premium. Because many of the early grave markers were not permanent, older graves were frequently disturbed by subsequent burials. Many graveyards began as pastures and continued as such after being developed as burying grounds, adding to the unkempt appearance. Few graveyards were carefully tended.

As towns grew beyond a few families, they began to establish municipal burial grounds. Some were located adjacent to meetinghouses or on commons, while others were situated in more isolated locations.

Small old burial ground



Most of the sites examined in this program were opened as public burial sites, owned and operated by the municipal authorities of the time. A few began as family burial grounds [Mashpee, Peabody], others as church yard grounds [Douglas, Braintree].

Over time, burial markers became more permanent, with a growing tradition of slate carving by skilled artisans like Joseph Lamson, James Foster and Henry Christian Geyer. These early grave markers represent some of America's first public art. Markers during this period were usually portal shaped, with images of winged skulls and hourglasses. Inscriptions typically read "Here lies the body of ...," reflecting the Puritan rejection of bodily resurrection.

Unitarian Burial Grounds

Towards the end of the 18th century, ideas about death and burial began to change as Unitarianism replaced rigid Puritan beliefs. Attitudes towards death and the afterlife became more ambivalent, reflecting a cautious optimism that became evident in the burial grounds of New England. Burials no longer faced west but were oriented east towards the rising sun. Gravestones remained mostly slate but the iconography changed to reflect the new optimism. Winged cherubs and angels offered more positive images and were soon supplemented by urns, willows and other symbols of hope. Inscriptions took on a different tone as well. "Dedicated to the memory of ..." implied a permanent legacy, even though the body was departed.

Burial grounds, by this time much larger than they were a century earlier, began to reflect the general orderliness that was valued in New England during the Federal period. They were no longer fields with a few scattered graves but contained rows of headstones, and sometimes footstones. The landscape remained rough and unadorned although the burial ground might have been enclosed by a fieldstone wall or wooden fence, particularly if it was used as pasture. There would have been little if any ornamental planting.

An early 19th century New England writer wrote:

"the burying place continues to be the most neglected spot in all the region, distinguished from other fields only by its leaning stones and the meanness of its enclosures, without a tree or shrub to take from it the air of utter desolation."

The Rural Cemetery Movement

By the beginning of the 19th century, the population of Massachusetts had increased dramatically. The increased urbanization fouled the air and water of urban areas with a resultant rise in epidemics like Small Pox, Diphtheria, Scarlet Fever, Yellow Fever, Whooping Cough, Measles and Asiatic Cholera that caused high death rates.

In 1822 Boston's burial grounds were in such a deplorable state that Mayor Josiah Quincy proposed to ban interments within the city limits. Existing urban burial grounds were in a deplorable state because of vandalism, abandonment and shuffling of locations. The burial grounds were seriously overcrowded with no space available for burials. It was believed that burial grounds were contaminating the water supply and that gases emanating from graves threatened public health. The 1830s and 1840s witnessed the closure of many of the nation's urban burial grounds because of neglect, abandonment and desecration.

The overcrowding and unhealthy conditions of urban burial grounds and city churchyards led to the perceived need to remove burial grounds from urban centers. While Boston's problems were very dramatic, these issues were also reflected in other large cities and towns throughout the Commonwealth, prompting a new approach to the design of burial grounds called the rural cemetery movement. Improvements in transportation made it possible to establish cemeteries in areas remote from crowded living conditions. These locations provided assurance that the dead could be interred and their remains would not be disturbed. Prior to that the dead were exhumed to make room for others in the tight confines of urban burial grounds or churchyards.

The rural cemetery movement was influenced by two important precedents, New Haven's New Burying Ground and Pere Lachaise in Paris.



New Haven's New Burying Ground

New Haven's New Burying Ground, established in 1796, introduced the idea of a private nonsectarian burial ground free from church and municipal oversight. It was located far enough from the city so it would not be perceived as a public health risk and was laid out in a geometric grid with private family burial lots. It was an enclosed level field with pathways broad enough for carriages to pass and the area was planted with trees [Poplars and Willows]. The design of this burial ground influenced the form and style of burying grounds to follow. This influence can be seen in plans for the cemeteries in Sunderland and Brimfield, Massachusetts.

The 1804 design of the new rural cemetery, Pere Lachaise in Paris, drew international acclaim. It too was located outside the city but unlike earlier precedents, it was deliberately laid out to reflect an Arcadian ideal, a landscape for mourning. The design borrowed elements from the English romantic landscape style of the period with formal and informal design elements. It was a picturesque commemorative landscape with paths separated from carriageways. The cemetery was unified by a curving drive that led visitors past the classical monuments and offered a sequence of carefully constructed views.

By the 1830s the three major cities in the United States [Boston, New York and Philadelphia] had established large cemeteries on sites carefully chosen for accessibility and natural beauty.



Pere Lachaise Cemetery, Paris



From these two early precedents and the specific issues arising out of Boston's burial reform came Mount Auburn Cemetery in Cambridge, established by the Massachusetts Horticultural Society in 1831. Key principles of Mount Auburn were that it was located outside the city, it was a place of permanent burial in family lots and it was nondenominational. It was the first American cemetery intended to emulate the romantic character of estate design and was widely imitated in the years that followed.

Detail of Statue, Pere Lachaise Cemetery, Paris

Mount Auburn Cemetery and Pere Lachaise were created with a similar design intent and landscape aesthetic. But the two sites developed with very different results. Pere Lachaise became built up and congested with monuments and the French landscape expression of man's dominance over nature. It became a classic representation of mourning. At Mount Auburn, natural expression dominated and came to represent a calming sense of hope and expectation in the hereafter. It has retained the careful balance of art and nature intended by its founders.

The rural cemetery movement brought a new aesthetic to the design of other cemetery landscapes. Varied topography was desirable to create a landscape of complexity and visual interest. Broad vistas and picturesque landscapes were introduced to offer a view of the sublime in nature. Roads were circuitous and laid out to create a series of views as visitors moved through the landscape. Unlike earlier burial grounds, rural cemeteries were heavily planted. Some, like Mount Auburn, were even conceived of as arboretums. Enclosed vegetated spaces were provided for contemplation.

This new type of cemetery experience changed the public perception of burial grounds to such an extent that during the 1840s and 1850s tours of cemeteries became popular. For many these fashionable excursions combined pleasure with duty.

There was an important change in nomenclature as well. The older term "burial ground" was gradually replaced by the term "cemetery" which came from the Latin "to sleep." Even the names of the rural cemeteries [Greenlawn, Harmony Grove, Hope and Forest Hills] evoked their new ideals as places of consolation and inspiration.

Chronologic Development of Selected
"Rural" Cemeteries in Massachusetts

- 1831 Mount Auburn Cemetery,
Cambridge
- 1837 Rural Cemetery, New Bedford
- 1838 Rural Cemetery, Worcester
- 1839 Blue Hill Cemetery, Braintree
- 1840 Harmony Grove, Salem
- 1841 Garden Cemetery, Chelsea
- Rural Cemetery, Lowell
- Springfield Cemetery, Springfield
- 1842 Oak Hill, Newburyport
- 1848 Forest Hills, Jamaica Plain
- Mount Feake, Waltham
- 1850 Evergreen Cemetery, Brighton
- Pine Grove, Lynn
- Rural Cemetery, Pittsfield
- 1851 Woodlawn Cemetery, Chelsea
[now Everett]
- Wildwood, Winchester
- 1852 Mount Hope Cemetery, Mattapan
- 1853 Oak Grove, Fall River
- 1855 Newton Cemetery, Newton
- Sleepy Hollow, Concord



Mount Auburn Cemetery, Forest Pond, 1845 engraving

Central to the concept of the rural cemetery was the idea of family lots where family members could be buried together in perpetuity. Absorbed in the world of the dead, Victorians lavished family plots with embellishment as an outward recognition of their sorrow. Lots were often edged with stone and/or defined by ornate iron fences or hedges. A large central family monument often supplanted individual grave markers. Families often took pleasure in maintaining their lots, which sometimes had furnishings for visitors.

Grave marker and memorial iconography and materials changed dramatically during the 19th century. Urns, willows and other symbols of solace gradually replaced earlier images. Upright slabs remained popular but there was growing use of three dimensional monuments. Classical symbols, particularly obelisks and columns, were popular early in the century. Iconography became less abstract and more sentimental, with figures like lambs and cherubs used for graves of children.

Monuments of the wealthy sometimes reflected aspects of a person's life or career. Affluent families constructed tombs or mausoleums, often into a hillside.

Many cemeteries also built receiving tombs to house the bodies of those who died during the winter months until the ground was soft enough to dig. Hearse houses also became popular during the 19th century, as many cities and towns were now so large that the deceased could no longer be carried from their houses to the cemetery.

Slate and sandstone markers were replaced with marble markers, granite obelisks and replicated statues. The whiteness of the marble markers was less somber than the earlier dark slate and more appropriate for positive feelings about the hereafter. While marble was comparatively easy to carve, its disadvantages became apparent over time. It was not as permanent and carvings began to erode. Improved quarrying technology made granite more readily available towards the end of the 19th century and it soon replaced marble as the preferred stone for grave markers.

Influences of the Rural Cemetery Movement

Although many of the burial grounds of Massachusetts, including most of those examined in the Historic Cemeteries Preservation Initiative, were established prior to the rural cemetery movement, the influence of these new ideas was widely felt throughout the Commonwealth. Burial grounds were no longer considered desolate places to be avoided but places of solace to the living as well as permanent resting places for the dead. Many cemeteries developed after the 1830s integrated some aspects of the rural cemetery movement into their design. This new generation of cemeteries featured curvilinear roads and paths, rustic ponds, extensive plantings and more ornate architectural features. Some were laid out by the growing number of surveyors, gardeners and landscape architects who specialized in design of rural estates and cemeteries.

Many of the Commonwealth's older burial grounds were also upgraded during the 19th century, giving them a more park like appearance. While many of the gravestones are older, the romantic image of a tree covered Colonial burial ground is largely a 19th century phenomenon. Municipal records indicate that fencing, tree planting and other improvements were common during this period. One of the most dramatic changes was the addition of vegetation as a normal part of the cemetery landscape. Trees were added to all of Boston's existing burial grounds within 15 years of the founding of Mount Auburn Cemetery. Decorative Victorian embellishments, including fencing, were another common addition to older burial grounds. Elaborate entry gates were often added, representing earthly gates to paradise.

Lawn-Park Cemeteries and Memorial Parks

After the Civil War, public interest focused less on cemeteries because newly established large parks provided better opportunities for recreation. There were also changing attitudes about the earlier emphasis on death. Evolving technology, most noticeably the advent of the lawnmower and vastly improved granite cutting techniques, were also strong influences.

The Lawn-Park cemetery image, exemplified by Spring Grove Cemetery in Cincinnati, Ohio, was influenced by the late 19th century City Beautiful movement and attempted to balance formalism with naturalism. Family monuments set in large lawn areas replaced individual markers. The clutter of the individually enclosed family lots was replaced with a more unified, park like landscape. Few clusters of trees or shrubs interrupted the expanses of lawn.

As the Lawn-Park style became more popular, the fences and hedges began to disappear in many older cemeteries as well, due partially to the difficulty of maintaining the enclosures and mowing around them and partially for aesthetic reasons. These elements, in very close proximity with each other, competed visually to the detriment of the broader cemetery experience.

Another late 19th century trend was an increase in the number of cemeteries associated with particular religious or ethnic groups, particularly in industrial cities. As the population of Massachusetts became more diverse, many groups chose to establish their own cemeteries, often retaining distinctive features from their own culture.

Other groups acquired sections in municipal cemeteries where they could be buried together in a cemetery 'neighborhood' that would include those with whom they had lived. During the latter part of the 19th century, many municipal burial grounds assumed a commemorative and patriotic function, serving as the location of civic monuments and gatherings like Memorial Day ceremonies.

By the early 20th century, cemeteries became even more park like. The 1913 establishment of Forest Lawn Memorial Park in Glendale, California took the Lawn-Park cemetery to a new dimension as the use of flush burial markers placed a greater emphasis on lawns and created a sense of spaciousness and unity, reducing visual distractions. Plantings became a backdrop for large artistic memorials that emphasized community rather than individual.

Some of the older cemeteries in Massachusetts adopted the new aesthetic of Forest Lawn for expansion areas. A prime example is Greenlawn Cemetery in Nahant where the sense of lawn and ocean view create an overall ambiance of tranquility and community. It is believed that the planned new municipal cemetery in Belmont will also be developed in a similar manner.

Since World War II many cemeteries favored efficiency of burial over aesthetic considerations. Uniform rows of straight plots, coupled with uniform or back to back placement of headstones of similar size and limited vegetative development, have left an impression of warehousing the dead.

Recent Trends

As reported in the Wall Street Journal, demand for burial space is growing across the nation. In 1996 there were 2.3 million deaths in the United States, 14% more than in 1986 according to the National Center for Health Statistics. Deaths are expected to increase to 2.7 million a year by 2007. Cemetery space shortages are particularly acute in the Northeast where large tracts of land in and around urban areas are difficult to find and very costly. Almost half of 49 cemeteries in a Boston area survey expect to run out of burial space within 10 years.

In more rural areas, where land is more available, less expensive and the demand for such space is less because of smaller populations, adequate burial space does not appear to be a significant current issue. Many smaller communities in rural areas have amassed sufficient land for burial purposes to serve them for many decades.

The development of cremation in the late 19th century provided an economical alternative to traditional interment under headstones. Although public acceptance has been slow, according to the Cremation Association of North America cremation accounted for 22% of dispositions in Massachusetts in 1998, up from 17% in 1993 and 4% in 1968. It has been projected that cremation will be chosen in almost 25% of deaths in Massachusetts by the year 2000, and that is projected to rise to 45% by 2010. However, other sources estimate that about 50% of cremains are not placed in a traditional manner like in columbaria, mausolea or family graves.

The potential impact of broader acceptance of cremations could be significant on landscape image and development. With less importance attached to individual vertical headstones, the landscape expression could again dominate over stone artifacts.

*Contemporary cemetery treatment,
Watertown*



Conclusions

Burial grounds and cemeteries in the Commonwealth offer a variety of visual impressions. Some, particularly the older, smaller burial grounds, present the image of a single period or short span of time. Others, particularly the larger sites, exhibit characteristics of several of the influences, styles or trends in cemetery development because they had sufficient space for them to endure and develop areas sequentially over a long span of time.

For much of the 20th century, many historic burial grounds and cemeteries have suffered the adverse impacts of neglect. A number of factors influenced this plight of municipal cemeteries today. Perhaps the most important is the fact that once a site becomes full and inactive, it no longer generates income and no longer has or needs sales appeal. Many burial grounds and cemeteries were essentially abandoned after the sale of all of the plots. The lack of sufficient endowment funds meant that there were no funds for maintenance and long term care.

Competing needs and low municipal budgets, coupled with increased labor costs, have generally placed the maintenance and preservation of historic burial grounds and cemeteries low on a municipality's priority list. Municipalities have many needs for the funds that they have available. Improvements in the tools and devices for maintenance over the last century have reduced, but not eliminated, labor requirements.

Sites that are taken care of tend to have high visibility and significance in the community. They are also often recognized as an important component of the local tourism industry. Recent broadened interest in the preservation of cultural landscapes has uncovered the wide ranging information and significance that these properties have to offer.

Afterword

The purpose of this historic overview is to provide a sense of the major trends in cemetery development, and allow readers to identify where a specific cemetery or part of a cemetery might fall in this spectrum. It is not intended to be a definitive history. There are several excellent contemporary publications on the historic development of burial grounds and cemeteries in the United States. Perhaps the most comprehensive is David Sloane's *The Last Great Necessity: Cemeteries in American History*. Others focus on specific periods of time like John Stilgoe's *Common Landscape of America, 1580-1845* and Blanche Linden-Ward's *Landscapes of Memory and Boston's Mount Auburn Cemetery*.

Eroding stone carving detail in marble
Watertown



GUIDELINES FOR PRESERVATION PLANNING

Before physical improvements begin, careful planning is needed to determine an appropriate overall approach and to set priorities. This is done through the preservation planning process which has three steps: documentation, evaluation, and decision making, all of which are described briefly in this section. For additional information see Lynette Strangstad's, *A Graveyard Preservation Primer* and *Preservation of Historic Burial Grounds*, Information Series No. 76 as well as *National Register Bulletin No. 41, Guidelines for Evaluating and Registering Cemeteries and Burial Places*. Full citations are in the Bibliography.

DOCUMENTATION

The first step in any effort to protect a historic burial ground or cemetery is to compile information on its origins, evolution over time and current conditions. This documentation process, which involves both historical research and on site observations, provides valuable information about the site and also forms the basis for subsequent evaluation and decision-making. The information generated as part of the documentation process also becomes part of the historical record of the burial ground, and can be used for other purposes, such as gaining public appreciation and support for the property.

Documentation is most commonly undertaken by local historical commissions, sometimes working in collaboration with one or more preservation consultants who may be art, landscape architectural or social historians, cultural geographers or have training in other related fields.

Documentary Research

The documentary record is often the best place to start to gain an overall understanding of the evolution and development of a burial ground or cemetery. Information on a specific cemetery, especially one that is municipally owned, is often found within the community in which it is located. While each city or town is organized differently, local historical commissions, historical societies and municipal libraries are often a good starting point. Valuable records can also be found in other municipal offices such as the city or town clerk [birth and death records]; the cemetery commission [cemetery inventories, physical and policy changes] and the community's annual reports [expenditures, capital improvements]. Documentary information can also be obtained from local histories, historical maps and atlases, property deeds, land plats, newspaper accounts, standard and aerial photographs, Vital Records, family histories and genealogies, census schedules and tax records.

When investigating historical era Native American cemeteries, families and individuals, the Indian Affairs records from the Massachusetts State Archives and the 19th century Earle Report can provide helpful information. Also useful are military records which provide brief service records for war veterans [e.g. municipal military musters, Massachusetts Soldiers and Sailors in the Revolutionary War, Massachusetts Soldiers and Sailors in the Civil War, Massachusetts Soldiers in the French and Indian War]. Finally, oral histories and community traditions often generate helpful hints on cemetery locations, construction, enlargement and repair.

National Register Bulletin No. 41 offers a description of the type of documentation to be collected. While it is not always possible to find information in all categories, the summary below is a useful starting point.

"Documentation begins with compiling information on the background of the site and its development over time. Such information would include the date the burial place was established, the period in which it was active, the circumstances under which it was established and maintained, and the cultural groups, individuals, organizations, agencies, or corporations responsible for initial and subsequent development. For a burial place with design distinction, such as a large comprehensively designed cemetery, information should be provided about those who designed the overall landscape and its architectural features, and those who carved or fabricated individual monuments and grave markers. An analysis of components of the burial place would include identification of methods of construction and manufacturing techniques, as described in stone cutters handbooks, fabricators' catalogs, and professional publications. Characteristic plant materials, layout of burial plots and circulation features, acreage encompassed, and the purpose or function of areas and features within the site boundaries also are important. The research should determine when newer tracts were added to the site and describe the site in relation to its surrounding landscape."

Documentary research should be compiled into a written narrative accompanied by graphic documentation, such as maps and photographs, if available. In addition, it may be useful to compile a binder containing supporting information which can be consulted when additional questions arise.

Site Survey and Condition Assessment

The walkover or site survey is another key step in identifying the significant features of a burial ground or cemetery. The site survey reveals how burials are placed in the physical environment and how the natural environment is altered to memorialize the dead. If at all possible, data gathered during the walkover should be recorded on a site map. If a detailed survey map is not available, an assessors map can provide the basic outlines of the property and key details can be sketched in. The maps prepared for the cemeteries described in this report can serve as models. Lynette Strangstad's *A Graveyard Preservation Primer* offers guidance on selecting a datum point which can be used to prepare a more accurate survey of site features.

It is often desirable to take photographs of current conditions as well. They should include overall views as well as details of significant features. While color photographs provide a good visual record, black and white photographs are required for Massachusetts Historical Commission [MHC] survey forms and National Register nominations. To avoid duplication of effort, MHC and National Register requirements for photo documentation should be reviewed before photos are taken.

The following list of features to be identified and evaluated is adapted from *National Register Bulletin No. 41*, which should be consulted for additional information.

- *Topography*, including slope and elevation, both within the burial ground and in relation to its larger setting
- *Natural Features* such as streams, hills and native vegetation, and naturalistic features such as ponds, lakes and land forms
- *Spatial Organization* or arrangement of man-made features within the cemetery [i.e. rectilinear, grid-like, curving or naturalistic]
- *Views and Vistas*, both within the site and external to it
- *Characteristic Vegetation*, including trees, shrubs, grasses, ornamental flower beds and specimen plantings
- *Circulation* features such as roads, paths, steps, pavement materials
- *Gateways, Fences and Hedges* used for boundary and spatial definition, especially perimeter walls and fences, also features defining individual burial plots, such as fences, curbs or changes in topography
- *Grave Markers*, including gravestones, monuments and mausoleums, for which typical or outstanding examples should be described [see section below on grave marker inventory, which is often undertaken as a separate project]

- *Cemetery Buildings* such as chapels, gate houses, offices, greenhouses, hearse houses and crematories
- *Site Furnishings* such as signs, flagpoles, lighting, benches, planters and fountains and commemorative features such as cannons and sculptures

The primary goals of the site survey are to document the property's present physical character in comparison with its appearance during the period of its most active use and to identify major planning and preservation issues. The visual examination of surface remains may also be important for locating unmarked burials and defining the spatial extent of unbounded burial grounds or cemeteries. Visual inspection can also reveal where original cemeteries were later enlarged or enclosed, where the natural landscape has been modified, or associated historic features, such as ancient roads and "ways" have been obscured by subsequent development. A systematic search for broken or displaced markers, marker fragments or bases, tomb mounds, family plot markers and surface depressions often signals potential burial locations.

An effective way to begin a pedestrian survey is by perambulation of the interior and exterior cemetery walls to search for evidence of changes to the external boundaries, access ways, and gates, and to search for associated structures, former roads and access ways. Close inspection of stone walls and fences may reveal differential masonry techniques and a variety of materials, indicating where an original wall or fence has been repaired, or where earlier material has been removed. Often fragments of broken markers are found at the base of the burial ground or cemetery walls, and outside the site, where they were thrown during episodic tidying or have fallen down slope from the site. A systematic walk from north-south through the interior of the cemetery may identify rows of head and foot stones aligned east-west according to Christian tradition. When the internal configuration and spatial array of the burial rows is known, anomalous surface conditions will indicate absent markers, walkways, pathways and tree falls and may also reveal changes to entrances and gateways. Vacant portions of the burial ground, particularly remote corners, can indicate the location of unmarked graves where town paupers were buried.

Stone carving detail in slate
Old Hill Cemetery, Newburyport



Grave Marker Inventory

Stone by stone inventories recording the number, materials, artistic and historic significance, and condition of the gravestones must form the basis for stone conservation programs. More specific information regarding grave marker inventory can be found in the appendix.

Subsurface Investigations

Excavation in a historic burial ground or cemetery is strongly discouraged, but is sometimes necessary for planting, the repair or installation of walls or other structures, or to resolve drainage issues. All excavation, to any depth, requires review and approval in the form of a permit from the Massachusetts Historical Commission and the advice of a professional archaeologist.

Archaeological excavation of burial grounds and cemeteries can be conducted only by professional archaeologists and is generally limited to the search for unmarked burials. Archaeologists can exhume human remains from a burial ground or cemetery only after a special permit has been obtained from the State Archaeologist at the Massachusetts Historical Commission, and only if exceptional circumstances warrant their removal.

Archaeologists employ a variety of means to search for unmarked burials, including documentary research, informant interviews and site locational models. Field techniques include geophysical or remote-sensing methods such as electrical resistivity, electrical conductivity and ground-penetrating radar. Systematic probing to search for buried gravestone fragments is another way to identify unmarked burials and to find broken burial markers. Remote sensing and probing are employed during the preliminary search for unmarked burials which are subsequently investigated by standard manual excavation.

Unmarked burial grounds can also be identified by machine assisted soil stripping. During soil stripping archaeologists monitor the removal of consecutive soil layers to search for changes in soil color and texture associated with burials. Prior to machine excavation archaeologists test to determine whether graves contain evidence of surface treatment, to identify the natural stratigraphy, and to predict the depth at which the burials have been interred. This method is particularly effective to search for clustered burials which have been associated with Christian Native American cemeteries.

When an unmarked burial ground or cemetery is identified, archaeologists conduct field investigations to determine the size of the site, define the boundaries and identify the spatial array of the burials. Angle-oriented hand trenching is an effective means for exposing grave shafts to reveal the spatial array of ordered rows within the cemetery. When the size and boundaries of unmarked burial grounds or cemeteries have been identified, archaeologists can then establish physical boundaries so that the site can be protected from development in surrounding property. These methods are also appropriate for defining the extent of small family plots and confirming that burials do not extend beyond the known perimeter. Excavating historical burial grounds and cemeteries is the exception, not the norm and should be undertaken only by a professional archaeologist under permit.

Massachusetts Historical Commission Survey Procedures

Once a burial ground or cemetery has been identified as being potentially historically significant, the local historical commission should contact the Massachusetts Historical Commission to determine whether an MHC survey form has been prepared for the property or whether the property is listed on the National Register of Historic Places. If a survey form has not been prepared or if the survey form on file does not meet current standards, a survey form should be completed. This important step provides first level documentation and evaluation of a property's history and current appearance as well as providing key factual data. The MHC *Historic Properties Survey Manual* should be consulted prior to preparation of MHC survey forms.

Ideally survey of burial grounds is done as part of a broader survey of municipal resources so the individual property can be evaluated in relation to other historic properties within a community. Contact MHC survey staff for additional information regarding municipal surveys.

EVALUATION

The documentation phase described above provides background information on the history and current conditions of a burial ground or cemetery. The second step in the preservation planning process is evaluating the historic significance and integrity of a property in relation to others of its period, type and location.

A primary goal of the evaluation process is to determine whether the burial ground or cemetery is eligible for listing on the National Register of Historic Places. Any community interested in the National Register should contact the National Register staff at the Massachusetts Historical Commission for general information procedures, time frames and documentation requirements. Before a nomination is prepared, the local historical commission must contact MHC for an opinion of eligibility and to obtain the nomination forms. MHC generally requires that a community have a completed community-wide survey before proceeding with National Register nominations.

The National Register of Historic Places

The National Register is the official federal list of districts, sites, buildings, structures and objects significant in American history, architecture, archaeology, engineering and culture. National Register properties have significance to the prehistory or history of their community, state or the nation. Properties listed on the National Register must possess historic significance and integrity.

In order for a property to be listed on the National Register, a nomination form must be prepared which includes a detailed description of the property and an evaluation of its historic significance. Nominations may be initiated by private individuals, organizations or government agencies. With the exception of federally owned properties, nominations for properties in Massachusetts are submitted to the Massachusetts Historical Commission for evaluation. Nominations recommended for listing by the state review board are then referred to the National Park Service which administers the National Register program.

When the National Register program was established, listing of burial grounds was not encouraged unless they were of exceptional significance. More recently burial grounds have been recognized for their many aspects of significance and can now be nominated as long as there is adequate justification to support the nomination.

*Emily Dickinson gravesite
West Cemetery, Amherst*



Preparation of a National Register nomination often provides the first complete record of the history, significance and current conditions of a cemetery or burial ground and can be a valuable asset in understanding and appreciating the area. It often gives new importance and status to a neglected property. A major benefit of the National Register is that listed properties are eligible to apply for state and federal preservation grant programs. While listing in itself does not impose restrictions on a property, National Register listed properties are subject to Massachusetts Historical Commission review on all actions that are funded, licensed or permitted by state or federal government agencies.

Listing on the National Register requires thorough documentation and evaluation of the history, significance and current status of a property. Preparation of the forms is usually done by a historian or other preservation professional. Properties are determined to be eligible by the Massachusetts Historical Commission, who recommends their listing on the National Register. There are a number of National Register Bulletins to provide guidance. Most directly relevant is *National Register Bulletin No. 41, Guidelines for Evaluating and Registering Cemeteries and Burial Places*. Assistance is also available from the Massachusetts Historical Commission.

Significance

Significance is the importance of a property, as defined by four criteria recognized in National Register nominations. Each property nominated must satisfy one or more of these criteria [listed below]. Generally properties must be at least fifty years old to be considered eligible for the National Register. They must also be significant when evaluated in relation to major trends of history in their community, state or the nation.

- *Criterion A:* Associated with historic events or activities or patterns
- *Criterion B:* Associated with important persons
- *Criterion C:* Distinctive physical characteristics of design, construction or form
- *Criterion D:* Potential to provide important information about prehistory or history

In addition, as outlined in *National Register Bulletin No. 41*, burial grounds, cemeteries and graves qualify for the National Register *only* if they meet certain special requirements or Criteria Considerations *as well as* the standard National Register Criteria. These considerations also apply to religious and commemorative properties, as well as properties that have achieved significance within the past fifty years. As stated in *Bulletin No. 41*, "cemeteries and graves may qualify under Criteria A, B or C if they are integral parts of larger properties that do meet the criteria, or if they meet the conditions known as *criteria considerations*."

Bulletin No. 41 provides the clearest discussion of the Criteria Considerations and should definitely be consulted throughout the evaluation process. One important example is the discussion of Criteria Consideration C which states that

"A birthplace or grave of a historical figure is eligible if the person is of outstanding importance and if there is no other appropriate site or building directly associated with his or her productive life."

In other words, if a residence or workplace associated with an individual is still in existence, this might be determined to have a more direct association with the significance of an individual than his or her grave site.

Criteria Consideration D must also be considered. It states that

"A cemetery is eligible if it derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events."

Burial grounds and cemeteries commemorate many individuals and may express important spiritual beliefs. While this alone does not qualify this type of site for National Register listing, other factors may make a burial ground or cemetery eligible for listing. A burial ground's age and scope may reflect larger historical trends like patterns of early development of an area by a particular group. A cemetery may be associated with a significant historic event. A cemetery may also be eligible for the quality of design represented in its funerary art, landscape development or construction techniques.

Integrity

Integrity is the authenticity of a property's historic identity or the extent to which a property evokes its appearance during a particular historic period. While evaluation of integrity is often a subjective judgment, it must be grounded in an understanding of a property's physical features and how they relate to its significance. The National Register recognizes seven factors that define historic integrity. Retention of these qualities is essential for a property to convey its significance.

- *Location* is the place where the historic property was constructed or the historic event occurred.
- *Design* is the combination of elements that create the form, plan, space, structure and style of a property.
- *Setting* is the physical environment of a historic property.
- *Materials* are the physical elements of a particular period.
- *Workmanship* includes the physical evidence of the crafts of a particular period.
- *Feeling* is a property's expression of the aesthetic or historic sense of a particular period.
- *Association* is the direct link between an important historic event or person and a historic property.

In evaluating the integrity of a burial ground or cemetery, the following questions should be asked:

- To what degree does the burial place and its overall setting convey the most important period[s] of use?
- To what degree have the original design and materials of construction, decoration and landscaping been retained?
- Has the property's potential to yield significant information in American culture been compromised by ground disturbance or previous investigation?

DECISION MAKING

Once the documentation and evaluation phases have been completed, decisions must be made regarding an overall approach and priorities for implementation. While decisions regarding the preservation of individual artifacts within a historic burying ground or cemetery are relatively straightforward, decisions related to an appropriate overall preservation philosophy are more complex. Conflicting needs between various features within a burial ground [such as trees and grave markers] need to be resolved and decisions need to be made about changes that have occurred over time. Archaeological considerations also need to be included in the decision making process.

Ideally a preservation master plan is prepared to provide a careful framework for decision making. It can be a relatively brief document, such as the plans prepared for the burial grounds and cemeteries included in this report. A more detailed report may be needed in a situation where complex decisions need to be made. This might occur where major work is needed or in an active burial ground where new burials need to be accommodated sensitively into the existing landscape.



Forefathers Burying Ground, Chelmsford

Preservation Philosophy

The National Park Service has identified four broad philosophical approaches that can be applied to a historic property, known as preservation treatments. While it is useful to be aware of all four, preservation and rehabilitation are usually the most appropriate treatments for most burial grounds or cemeteries. Accurate restoration to an earlier period is rare and reconstruction of a burial ground would generally not be considered appropriate.

- *Preservation* focuses on the maintenance and repair of existing materials and retention of a property's form as it has evolved over time. This is an appropriate treatment for most burial grounds and cemeteries, particularly those that are no longer in active use. Preservation is a conservative approach which involves minimal change or alteration and is often the least expensive as it involves the fewest alterations.
- *Rehabilitation* acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character. This treatment, often used for buildings, allows modifications to the character of a property to accommodate new or expanded uses. Rehabilitation might be appropriate in an active cemetery where changes are needed to facilitate ongoing or expanded use or for specific features within a cemetery, such as walkways which need to be upgraded to provide for universal access.

- *Restoration* is undertaken to depict a property at a particular period of time in its history, while removing evidence of other periods. While restoration of specific features within a burial ground or cemetery is often undertaken, restoration of an entire burial ground to an earlier period is generally not recommended as it would necessitate the removal of later additions [even graves] which may be important features in their own right.

- *Reconstruction* recreates vanished or non-surviving portions of a property, usually for interpretive purposes. This treatment is used when nothing remains from a historic period and sufficient information is available to recreate it from documentary sources. Plimoth Plantation is one Massachusetts example of a reconstruction which was undertaken because there were no surviving examples from that important period in American history.

When changes are made to any historic property they should respect the character defining features, those essential qualities that give a property a sense of time and place. These features are often delineated in National Register nominations or other planning documents. They may include the spatial organization of the property as well individual features such as buildings, burial markers, lot enclosures, walls, fences, gates, steps, views, topography, water features, trees, shrubs, ground covers, roads, paths, signs and site furnishings.

Secretary of the Interior's Standards for Rehabilitation

The Secretary of the Interior's standards provide guidance to property owners, design professionals and contractors prior to and during the planning and implementation of project work. The standards below are for rehabilitation, the most commonly selected treatment for historic landscapes.

- A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.
- The historic character of a property shall be retained and preserved. The removal of historic materials or alterations of features and spaces that characterize a property shall be avoided.
- Each property shall be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or architectural elements from other buildings, shall not be undertaken.
- Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
- Distinctive features, finishes and construction techniques or examples of craftsmanship that characterize a property shall be preserved.

- Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture and other visual qualities and where possible materials. Placement of missing features shall be substantiated by documentary, physical, or pictorial evidence.
- Chemical or physical treatments, such as sandblasting, that cause damage to historic materials shall not be used. The surface cleaning of structures, if appropriate, shall be undertaken using the gentlest means possible.
- Significant archaeological resources affected by a project shall be protected and preserved. If such resources must be disturbed, mitigation measures shall be undertaken.
- New additions, exterior alteration or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale and architectural features to protect the historic integrity of the property and its environment.
- New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Establishing Priorities

Once an overall preservation philosophy has been established, the next step is establishing priorities for implementation. These should be based on a variety of factors. The following questions can offer guidance in evaluating projects and setting priorities.

- *Consistency* - is the project consistent with the overall preservation philosophy established for the burial ground?
- *Significance* - does the project improve a historically or archaeologically significant feature or features?
- *Visibility* - is the project aesthetically important or prominently located within the cemetery?
- *Safety* - does the project eliminate or reduce existing or potential safety hazards?
- *Public interest* - is this a project that will generate public interest and support?
- *Condition* - does this project protect a deteriorating resource or improve an unsightly area?
- *Funding* - are funds realistically available for the project from either public or private sources?
- *Management* - will the project generate additional maintenance needs and if so have these needs been addressed?

The primary focus of recommendations for improvement is the protection, stabilization and preservation of character defining features.

The clean up of each site is critical to remove the detrimental effects of volunteer growth and evidence of vandalism, reducing the general misuse of the grounds and generally making them a more desirable place to visit. General clean up and low cost, high visibility maintenance efforts can be the most effective in terms of reclaiming a property and building subsequent support for a historic burial ground or cemetery.

Preservation of historic artifacts, tomb structures and retaining walls is generally given high priority because these efforts will prevent significant deterioration of these valuable resources and reduce risk to visitors. Additional improvements typically need to be made related to landscape issues [pruning, planting, pathways, etc.] and making improvements for visitors [site amenities, fences and gates, lighting and an informational and interpretive sign system].

Repair and restoration priorities should be established and worked on as funds become available. Thus, priority lists should be arranged in order of importance with a probable cost assigned to each item. Projects can generally be grouped into three priority levels: high, medium and low. However, these should not be treated as rigid categories. In certain cases it would make economic sense to combine selected items that have different priorities to avoid redoing high priority work when it is time to work on lower priority items at a later date.

Before any work is undertaken, professionals should be consulted and permits should be filed with the Massachusetts Historical Commission in accordance with state law.

High Priority Items

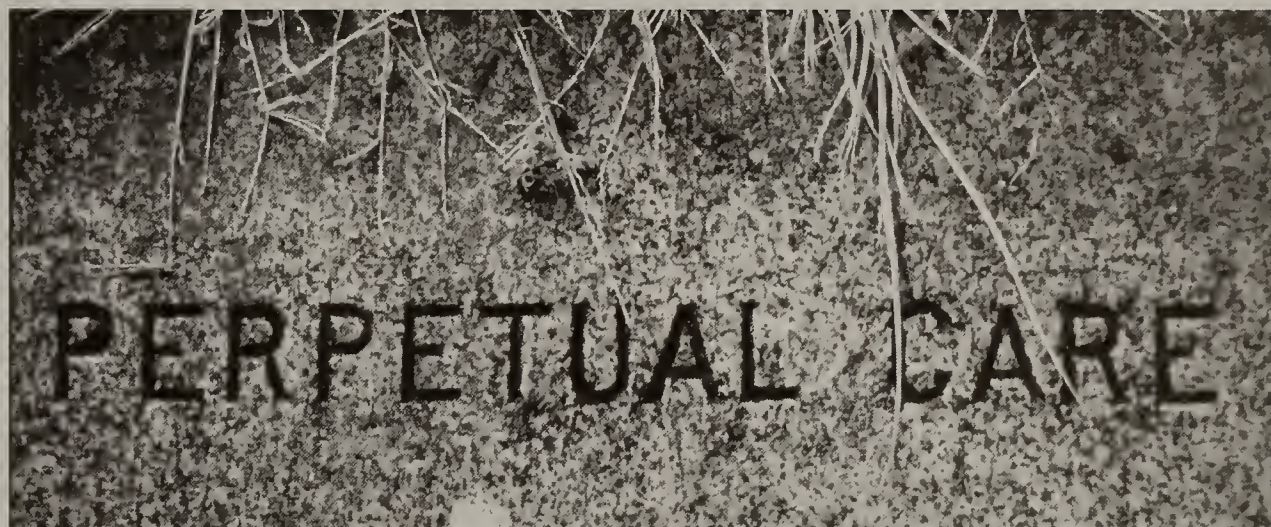
The first priority should always be clean up and removal of litter and other debris. Items regarded as high priority are typically related to issues of public safety, structural stability and protection of significant historic fabric or resources. These items should be corrected within one year. High priority items include resetting and repair of heavily damaged grave markers, including restoration of foundations, erosion repair, vegetative removals, pruning and fertilization of trees, and removal of graffiti. High priority items at high visitation sites also include path work, fence and gate restoration, structural items like mound tombs, path and stair work and identification sign placement.

Medium Priority Items

Items listed as medium priority should be corrected within five years and relate to issues of security, preventing accelerated deterioration or damage which could lead to higher future costs, replacement of items that are expected to last less than five years, and repair or replacement of items that significantly detract from the appearance of a burying ground or cemetery. Medium priority items can include lawn repairs, additional planting, cyclical tree pruning, maintenance of structures, conservation of two part grave markers with visible stains at the junction of the marker and base and consideration of adding water supply. Care should be exercised with the latter so as not to harm archaeological resources.

Low Priority Items

Low priority items include cosmetic repairs and future considerations that can be delayed at least five years. Low priority items typically include stone conservation of granite markers that have shifted and marble markers that are currently in satisfactory condition, additional planting and the addition of informational and interpretive signs at sites with low visitation. As visitation of a site increases, the priority level for signs should be reconsidered. Other low priority items include consideration of replicating missing historic components or the relocation of distracting overhead utility lines.



GENERAL RECOMMENDATIONS PERTAINING TO MUNICIPAL HISTORIC BURIAL GROUND AND CEMETERY COMPONENTS

During the winter and spring of 1999, fall of 2000 and spring of 2001 on site investigations, analyses and evaluations of 32 historic burying grounds and cemeteries across the Commonwealth were completed. Examination revealed a distinct similarity of problems and the desirability of standard acceptable solutions to these difficulties, where appropriate.

The overall goal of the Historic Cemeteries Preservation Initiative is preservation and stabilization to prevent further damage and to enhance the appearance of historic burying grounds and cemeteries wherever possible. The importance of these sites to a community is emphasized by well kept lawns, other components kept in a good state of repair and an inviting informative sign system. A well maintained site tends to discourage vandalism and promote further community support. All outdoor elements need regular maintenance regardless of age or condition.

The following contains a summary of general guidelines for protection, stabilization, preservation, restoration and/or maintenance. Because of the rapid advances in knowledge and techniques today, this should serve only as a general guide. Specific changes in these recommendations, particularly in regard to materials and methods, are expected over time.

These guidelines are provided for general information and are presented on a variety of levels. Most of these techniques and materials should not be used without appropriate training and in most cases a professional should be consulted before attempting anything. Inappropriate use of these techniques and/or materials can cause irreparable damage. In the majority of cases, a professional conservator should prepare a program of work specifying appropriate methods and materials for use. Conservation work should be performed by professional conservators. In some instances a conservator might be able to train people to perform some of the types of work involved and should supervise any work done by volunteers.

GENERAL

Issues

The sites examined in this program included both active and inactive sites that are maintained by a variety of municipal departments. Newton is unique in that there is no other active cemetery in the city and their maintenance crews have not developed the special skills necessary to maintain a historic burial ground or cemetery. Most of the grounds examined are kept reasonably free of trash and leaves, and the grass is mown regularly. Not surprisingly, burial grounds and cemeteries that are still active or in use tend to be the best maintained. Communities with active and collaborating Cemetery and Historic Commissions tend to care quite well for their inactive historic sites. The few sites that are primarily maintained by volunteers have for the most part been abandoned by the respective municipalities in terms of providing maintenance. The quality of maintenance in these cases is determined by the interest, stamina and long term endurance of the volunteers as well as available equipment.

Recommendations

Litter is a major problem in any public open space and one that must be controlled to create pride in a historic property. A neglected appearance seems to encourage vandalism or additional trash dumping. In this regard it is important to provide a moderate to high maintenance and management approach. A site should receive complete attention every 10 to 12 days during the summer. Leaves, paper, trash or debris should ideally be removed on a weekly basis and more often once it becomes a heavily visited site. Collection of trash from receptacles should be performed daily. Leaves should be removed during the fall and the grounds cleared of fallen branches.

Each landscape character has its own requirements and potential hazards that maintenance personnel and budgeting or funding entities must be aware of. There needs to be maintenance standards and an interest in upgrading training beyond a basic level. Maintaining a continuity of maintenance staff with a commitment to the preservation of a historic place is critical. It is also beneficial because this specialized knowledge is transferred to new staff members over time.

Most tree work is currently performed by private contractors because of their skills. Most need to be made aware of concern about historic artifacts on the ground below trees. Maintenance practices should be implemented in many communities to include the elimination of side collecting lawn mowers and introduction of the use of plastic whip weed whackers to reduce chipping and scratching damage on grave markers. Power mowers should be equipped with rubber bumpers as well as blade guards to prevent them from throwing stones and sticks.

LANDSCAPE CHARACTER AND VEGETATION

Landscape Character

Issues

The landscape character of historic burial grounds and cemeteries includes much more than grave markers and monuments. Natural topography and grass are essential character defining features of the older historic burial grounds. It is difficult not to appreciate a dramatic lawn covered hillock. Complimentary vegetation is an additional feature of later historic cemeteries. The landscape character must be nurtured and accentuated where appropriate to provide a more comprehensive experience for public appreciation, beyond the grave markers.

Selecting an appropriate landscape expression for each property is perhaps the most difficult choice to be made. Many sites combine more than one period of development and span more than one period or style in the evolution of graveyard design. Vegetation has been added to most sites, either purposefully or by natural forces.

*Limited vegetation in early burial grounds,
Old Hill Cemetery, Newburyport*



The primary question related to the landscape character of historic burying grounds and cemeteries is whether the notion of plantings, which were not introduced to most graveyards until the mid 1800s, should remain. This often lavish treatment was frequently added to very old burial grounds that date back to the 1600s and 1700s. Trees were not planted in these early cemeteries and few ornamental plantings were included. Prior to the mid 1800s, most vegetation had been left in place as a burial ground developed, or perhaps it filled in at the perimeter of a site as volunteer growth. The lawns were often used for grazing cows.

Most plantings were added in the mid 1800s in response to the ground breaking work at Mount Auburn Cemetery and the rural cemetery movement. Historic photographs of many of these sites from that period and later indicate that they contained numerous shade trees. Extensive shrub, vine and ground cover plantings, urns with seasonal plantings and bedding out planting is a typical and appropriate Victorian treatment for many sites developed or expanded after Mount Auburn Cemetery.

*1833 engraving illustrating barren character,
Kings Chapel Burying Ground, Boston*



Only two of the sites in this program could be considered part of the rural cemetery movement [Nahant and Everett], although a number of others have portions of properties that were developed during the Victorian period [Newton, Sunderland, Braintree, Brookline, Brimfield, Sterling, Spencer and Worthington]. Few of these sites retain many fragments of the Victorian era, other than at family plots, and restoration to the rich splendor of this period will be difficult.

Landscape choices are often dictated by the financial ability of a community to maintain a site. Graveyards from the 17th and 18th centuries were simple and easy to maintain with virtually no landscape embellishments. During the mid 19th century cemeteries had lush plantings and decorative elements which required labor intensive maintenance. More recent cemeteries have simplified maintenance requirements in comparison. Some of the Victorian cemeteries established in the mid 19th century find it difficult to live up to the promise of perpetual care without additional funds. The cost to maintain a Victorian cemetery may require more labor and expense than most communities can afford without extensive fund raising efforts.

*Victorian planting c. 1907,
Kings Chapel Burying Ground, Boston*



Returning the landscape image of early burial grounds to a relatively plain expression is desirable but often complicated by changes in the surrounding context of many of these sites. Visual intrusions from adjacent properties can detract from a visitor's experience. For many of the older burying grounds, the period between 1830 and 1850 [that is, between the establishment of Mount Auburn Cemetery and the Victorian period], could be considered the period of significance in regard to landscape image. This was the beginning of a significant image shift. Trees and other vegetation were introduced during this time, as well as perimeter cast iron fencing. Significant decorative elements, Victorian embellishments, had not yet found their place in these sites.

In our contemporary setting, 1830 to 1850 is an important period. There is often a definitive need to retain the concept of the trees introduced at that time. When these grounds were initially established, there were often distant views and very few competing structures or other visual elements. There have been significant changes in the visual character at the edges of most of these sites since that time. Today many are shrouded by buildings, often tight up to their boundaries. These buildings are a visual distraction. The trees are an important element, if only to cloak the buildings and provide some visual separation or isolation of the burying grounds from their surroundings. Trees also provide a distinct inviting image for tourists and passersby.

Recommendations

Looking at the context of each burying ground and cemetery today in relation to how each began is a determining factor in resolving an appropriate landscape character. In historic burial grounds there is often merit in maintaining the addition of plantings, particularly shade trees. In the most extreme examples shade trees provide some visual separation from the adjacent tall buildings in a dense urban context. Other historic burying grounds also benefit from the incorporation of trees for similar reasons, although perhaps to a lesser degree.

Because of adjacent undeveloped or open land and separation from contemporary architectural surroundings, some sites offer greater potential to present an appropriate 17th or 18th century image than others. This adjacent land could be acquired for open space purposes, or potential setbacks and view corridors could be imposed upon it. While most historic burying grounds should retain shade trees, some could and should have less and be presented with an image closer to their 17th or 18th century heritage. This would allow them to express the landscape character of that period. Where appropriate and possible, vines should also be introduced on adjacent structures to reduce the architectural visual intrusion and give the impression of green views or surroundings.

On sites that have multiple stages of development, it has been generally recommended that each stage of development be given the appropriate, applicable landscape treatment. This will accentuate visual differences in areas of different historic periods and help facilitate public understanding of the evolution of landscape treatment for sites of this type. Care must be exercised in the re-establishment of this landscape treatment to avoid creating a romantic view of what a 19th century cemetery looked like. Decisions should be based upon information available in historic planting plans, photographs of the period and/or the results of other definitive forms of investigation.

As a general rule shrubs, vines, ground cover and seasonal plants or flowers should not be replanted within historic burying grounds established before 1831 for historic, maintenance and security reasons. Shrubs and seasonal plants should be added to support the sites with a recommended Victorian image. This should be done thoughtfully and with consideration given to safety and security at each of these sites. The replanting of numerous shrubs, vines, ground cover and seasonal plants or flowers within a cemetery should be limited to the capabilities of maintenance staff and/or volunteers. The use of tall shrubs and small trees that obscure eye level views should generally be limited for security reasons.

Some authorities favor the use of ground cover over grass to decrease weekly maintenance requirements and offer greater protection to grave markers. This is generally not "historically correct" in terms of appearance, and other technical issues may also limit the apparent benefits of this approach.

Planting

Issues

Large deciduous shade trees are the predominant plant material in most sites and for the most part they should be maintained. They provide a distinct inviting image for visitors, passersby and adjacent residents. Shade trees also provide some visual separation from adjacent buildings. A few sites have mostly evergreen trees with the related problems of dense shade, difficulty establishing ground cover and moisture retention in grave markers. There are generally few shrubs on any of the sites. Soils in many of the sites are of poor quality, so surface roots are not uncommon.

Trees can be either an asset or a liability to a cemetery or burial ground depending upon decisions made and adopted in the planning stage. It is of utmost importance that the proper tree or shrub is planted in the right location, maintenance is provided, and a long term plan is adopted for care. A revegetation program should be initiated on many sites with appropriate species. It has been proven that a good healthy urban forest consists of trees of varying ages and a mixture of species of trees. There is no such thing as maintenance free trees or grass. However, choosing trees and turf with proven resistance to diseases, insects and environmental problems will reduce some of the maintenance.

Recommendations

Replanting is important in sustaining an inviting atmosphere on many sites. Trees should be planted as older ones are removed and a general effort should be made to replace trees. Underplanting of existing trees is not advantageous. After several years of dense shade and crowding, underplanted trees are typically malformed, weak and thin. If root conflicts with gravestones are a problem, the trees should not be replanted in the same exact location. Each case should be evaluated individually with the preservation of gravesites being the prime consideration. An archaeologist should be consulted regarding specific tree locations and a permit should be obtained from MHC prior to the execution of new planting.

If trees die or need to be removed due to conflict with gravestones or tombs, the trees should be cut as close to the soil level as possible and the stump and root system left in place to decay. Because the use of chemicals to speed this process could cause problems for gravestones, they should be avoided. If chemicals are deemed necessary, a stone conservator should be consulted before use.

Storm damaged tree, Village Cemetery, Tisbury



*Storm damaged tree
Watertown*



In cemeteries with little activity, smaller trees, 1" to 2" caliper in size, will establish relatively quickly with very little care. New research has shown that a tree takes 1 year to establish itself for each 1" of tree diameter of size when planted. For the first 30 years, trees grow about twice as fast as they do when they're older. Water newly planted trees for the first 3 to 5 years. Remove guying cables and tree wrap [if used] from newly planted trees after the first 2 years.

Mulching: Trees growing in an area with a restricted root zone, low nutrient levels, pH imbalance, low moisture conditions and soil compaction decline faster as they mature. Grass and weeds also compete for nutrients and moisture. Research is showing that trees, especially older mature trees, improve in health when turf or grass is removed under the branch spread and mulch or wood chips are applied at a depth of no more than 3 to 4". Surface roots are also protected when mulch is applied at that rate. When appropriate, trees should have grass removed from beneath their canopies as far as possible from the main stem. However, this is not always appropriate in historic burial grounds and cemeteries where prevention of erosion is of paramount concern.

Shrubs: Fertilize shrubs once a year during the spring. Spread fertilizer over the surface of the ground surrounding the shrubs. Soak the area thoroughly. Edge plant beds twice a month or as needed. Ornamental trimming or pruning should be consistent with the natural landscape and historic character. Plants should appear natural and healthy as opposed to geometric and fanciful. Prune to admit light and air to the center of the shrub. Prune only as plant growth requires. Prune spring flowering shrubs after they have bloomed. Prune summer flowering and other deciduous shrubs during the dormant season. Prune evergreen shrubs in late spring or early summer. Remove dead wood at any season.

Ground Cover: Keep weeded continually. Avoid disturbing runners. Prune regularly to maintain a low spreading appearance. Remove vertical shoots. Fertilize at the same time lawns are fertilized.



Fallen tree, East Parish Burial Ground, Newton

Species Selection Considerations

Issues

A specific planting plan should be developed prior to planting additional trees. The selection of tree species is an important consideration in terms of appropriateness, maintenance requirements and protection of historic artifacts. Botanic diversity is a particularly important consideration for sites that have roots in the rural cemetery movement. Large scale monocultures are generally not recommended because of experience with devastating diseases like Dutch Elm Disease, White Pine Blister Rust and Chestnut Blight. Acid rain has been monitored for many years, and it is suspected to be affecting Sugar Maples, causing Maple decline. Traditionally, Maples have been considered to be long lived trees where narrow tree pits, road salt and drought have not been a problem.

Recommendations

Replacement trees should be limited to areas that do not interfere with grave markers, paths, drives, fences, walls and buildings. The preference is to use large native shade trees like Sugar Maple and Oak. Consideration should be given to the reintroduction of improved disease resistant species of Elm and the use of non-natives like Katsuratree.

Evergreen trees add winter interest and could be used provided they are limbed up to maintain sight lines and a sense of security for visitors. Evergreens also offer the symbolic connotation of immortality.

Trees that require increased maintenance or present potential hazards to historic resources, like Poplar and Willow, should be used sparingly. Trees that are subject to storm damage should not be planted in the historic burying grounds and cemeteries because of the potential damage to historic artifacts with falling limbs, etc. This includes Ailanthus, Ash, Black Cherry, Cucumbertree Magnolia, Poplar, Red Maple, Silver Maple, Sophora, Tuliptree and Willow. White Pine, White Ash and Tuliptrees are also struck more often by lightning than most other trees.

Trees that grow fast like Willow, Poplar and White Pine break up easily and have one of the highest failure rates. Most White Pines have codominant branching from White Pine Weevil invasion when they were young. This type of growth is prone to large branch failure facilitating the entrance of decay within main stems.

Trees that are subject to wind throw have had their surface roots damaged from vehicles or lawn equipment. Root failure occurs more readily on trees that have root decay or other root problems. Up to 75% of all tree failures are due to root problems. Tall trees with large upper crowns are more subject to wind throw with root loss. Trees that have vertical cracks and decay throughout the lower and upper stems are prone to failure.

Trees with a dense surface feeding root system make it difficult to grow turf in the same area and should also be avoided. These include Beech, Honeylocust, Linden, Norway Maple, Poplar and Willow. Trees that have annual problems with insects such as aphids on Lindens should be avoided because of the staining and mess it causes on the grave markers.

Trees that create significant litter due to fruit and/or seed production should be used sparingly because of the additional cleanup work required by maintenance staff. This includes Ash, Black Cherry, Catalpa, Corktree, Ginkgo, Horsechestnut, Mulberry, Planetree and Sweetgum. Many fruits cause staining on grave markers, pavements, walls, etc. Flowering trees of choice should have small fruits and be disease resistant to leaf and stem disease like fire blight, leaf spot and apple scab. Crabapple and Red Cedar should not be on the same site unless disease resistant varieties are used. Diseases causing leaf and stem damage can be devastating when both hosts are present.

The dropping of aphid secretion or 'sap' on gravestones and tombs is also a particular problem when the preservation of gravestones is of prime importance. Linden and Norway Maple should be avoided because of this undesirable trait. Both also create a dense shade that inhibits the establishment of a stabilizing ground cover beneath them. Their tendency to develop basal sprouts is unattractive and blocks views. Structural problems and heavy pruning requirements for Zelkovas to allow sufficient light penetration for lawn development should limit the use of this tree.

Vegetation Management

Issues

The goal of tree maintenance is to maintain healthy trees free of dead wood which could fall on people or gravestones and tombs. The reasons for pruning trees may include reducing hazards, maintaining or improving tree health and structure, improving aesthetics, or satisfying specific needs such as: removing disease; removing dead, dying, interfering or obstructing branches; training young trees; eliminating screened areas to discourage loitering; and providing clearances for utility lines. The uncontrolled growth of trees and weeds hides vandals and can cause toppling of stones and widening of cracks in already damaged stones.

*Tree growth at iron fence,
Glenwood Cemetery, Everett*



Trees require pruning on a regular basis to protect historic resources from damage by falling limbs. Too many trees or trees of the wrong type can create shade that is too dense to support and maintain a stabilizing ground cover which makes the surface subject to erosion. Too much shade can also be detrimental, particularly to slate and marble grave markers, in that moisture could be retained for long durations, increasing the probability of biological growth on important historic artifacts.

Recommendations

Inspection

Inspect trees to safeguard against threats to stones and tombs from root systems and falling or scraping branches. Inspections should be made on a yearly basis and after each storm where winds exceed 55 mph. Ideally trees should be pruned to remove potentially hazardous dead wood on a yearly basis, but safety pruning every 5 years by certified arborists is acceptable. A 5 year cycle of pruning will help maintain and preserve large old trees. Provide plywood shelters as necessary to protect stones and monuments until pruning operations are complete.

Root collars should be cleared of soil, mulch, stones, brush and other items that could hide or cause decay which could cause a tree to fail. Keeping root collars clean helps control girdling roots and decay that leads to tree decline and failure. Questionable trees with cavities, cracks or seams in main stems or branches, or fungi fruiting bodies on or around the root area should be assessed for potential tree failure.

Failure prediction with any sort of accuracy is difficult. However, systematic evaluations of each part of a tree, using the procedures adopted by the International Society of Arboriculture and outlined in the guide known as "A Photographic Guide to the Evaluation of Hazardous Trees in Urban Areas," will help to eliminate most of the suspected hazards. Remedial action such as pruning, installing support systems and removal will help reduce the failure percentages and the damage or injury to property or persons.

Pruning

Trees should be pruned in such a manner as to preserve the natural character of a plant and in accordance with ANSI 300 standards. All pruning cuts should be made outside the branch collar. Remove all dead wood, suckers and badly bruised or broken branches to reduce potential injury or damage to people, grave markers, vehicles and structures. Remove branches to provide 8 foot overhead clearance.

The pruning of trees should be performed or supervised only by a certified Arborist. It should be done by nonprofessional crews only during an emergency situation or when there is an immediate issue related to public safety. The removal of dead trees should be done by certified arborists, preferably concurrent with a pruning contract. In cases where gravestones are impinged upon by tree trunks or roots, the gravestones should be temporarily moved to a new location to prevent additional damage to them, but only if it is safe to move the gravestone. If growth is in conflict with gravestones or tombs extreme care should be exercised. Cut trunks as close to the soil as possible and leave the stump in place to decay. After a stump has decayed sufficiently, topsoil fill should be added to blend in with surrounding grades, and the area should be reseeded.

Volunteer Growth

Issues

It is essential to maintain a landscape with an appropriate historic character. The character of a landscape is dynamic compared to the relative stasis of other historic components like grave markers and structural elements. Natural forces like landscape succession will change an unmaintained lawn into a forest in a relatively short period of time. The undeniable results of these forces can be seen in Littleton, Mashpee, Newton, Peabody and Sturbridge. Many of the older burial grounds have large trees that might appear as old as the sites themselves. However, most of them were not there before the turn of the century. Many are volunteers, developed from seed blown in from outside areas.

Recommendations

Most, if not all, volunteer species should be removed. Vegetation control programs are actively pursued in many communities, removing undergrowth, many of the smaller volunteer species and selected trees. Volunteer growth should be removed on a yearly basis during the summer months when frequency of mowing is reduced and maintenance crews have time to remove it. Because lawn areas and edges attract volunteer growth, lawns must be mowed on a regular basis to keep this under control. The edges of a property and individual elements like markers and tombs must also be constantly monitored to keep volunteer growth in check.

Lawns

Issues

The primary ground cover on all sites is grass. It is often in poor condition with areas of erosion, sloughing, bare spots, weeds and depressions.

Soil stabilization is an important consideration in preserving landscape character and protecting the overall historic resource. Unstable or bare soils erode quickly, altering the appearance of topography and decreasing the viability of stabilizing vegetation.

Erosion and sloughing often occurs in cemeteries on steep embankments and mound tombs with slopes greater than 2:1, along paths and drives, or even at individual grave stones placed on steep slopes. It is typically caused by slopes created steeper than the angle of repose of a soil, concentrated storm water runoff, concentrated pedestrian circulation, sheet runoff, settlement of steep slopes, dense shade that inhibits growth of ground cover and/or dense shallow tree roots that compete with growth of ground cover. Paths and drives may contribute to the increased flow, velocity and concentration of storm water through a burial ground or cemetery, also contributing to erosion.

Where grave markers are positioned parallel to the steep slope of a hill, they often act as miniature retaining walls by collecting or retaining soil on the upslope side where surface runoff slows down and deposits sediment as it intersects a marker. Surface runoff increases velocity as it travels around a marker and scours the earth on the low side, leaving an eroded depression. This build up and displacement of earth creates an unbalance. Pressure created by the build up of earth forces above causes markers to ultimately lean or fall down hill, creating a long term hazard for the resource.

Bare spots are typically related to concentrated pedestrian circulation, root competition from trees, dense shade and/or dryness. Weed intrusion is primarily related to dryness and low fertility levels. Heavy shade conditions also impact lawn quality. Most depressions are related to earth settlement or tree removals.

Moss is present in the lawn areas on many of these sites. In lawns, the presence of moss is an indication of wet soil, poor soil in need of fertilizing, very acid soil or a combination of these factors. In the areas where it is present on most of these properties, wet soil does not appear to be the issue. Most New England soils are acidic, but not to the degree that moss is present. More often than not, moss on these sites is an indication that a soil has low light and fertility levels, particularly a nitrogen deficiency.

Most lawn areas need renovation, including proper pH level and fertilization. Maintaining a healthy lawn cover with adequate light, moisture and nutrients, and good maintenance procedures would reduce bare spots, weeds, moss and erosion on all sites.

Recommendations

The primary appropriate method of decreasing erosion potential is the establishment and maintenance of dense lawn. In addition to tree removal for public safety reasons and/or for the preservation of historic resources, thinning of especially dense tree groups and removal of trees whose roots compete with ground cover should be considered. With reduction of the quantity of trees, reduced root zone competition and less overhead canopy vegetation, more light is allowed to reach the surface. Light enables the growth of a dense vegetated soil cover which will in turn reduce erosion.



*Erosion and sedimentation
at grave markers on a steep slope,
Old Hill Burying Ground, Concord*

*Erosion from concentrated overland flow
and pedestrian circulation,
Old Parish Burying Ground, Rockport*



Where appropriate and possible, consider regrading paths to ameliorate erosive conditions. Replacing impervious paving materials with pervious materials, where appropriate, may also decrease erosion by reducing storm water run off.

At mound tombs regrade earth surfaces to reduce the concentration of storm water and velocity of flow where necessary, particularly adjacent to tomb facade structures.

Where markers are sited on steep slopes, earth sediment should be removed on the uphill side of markers and placed in the depression on the downhill side. These markers should be monitored annually with erosion repaired as needed.

*Erosion at mound tomb,
Old Cemetery, Spencer*



Rehabilitating existing lawn areas: The rehabilitation of lawn areas in historic burial grounds and cemeteries needs to be done with more care than any other lawn because of the grave markers and potential bone fragments or other historic artifacts at or just below the surface of the ground. Weeds and other undesirable species should be removed. The soil should be loosened by power rake or vigorous hand raking. Rototilling is not recommended because of potential damage. Fertilizer and lime should be added as recommended by soil analysis. The fertilizer choice should be checked with a stone conservator as recommended herein under the discussion of soils.

Depressions that inhibit proper drainage of an area should be filled with topsoil to blend smoothly into surrounding grades. Care should be exercised with mounded or raised areas and regrading should be avoided or limited to avoid potential damage to subsurface elements. Bare spots should be topdressed, seeded and rolled. Water must be provided to maintain a sufficient moisture level to establish grass. The best time to install a seeded lawn is between August 15 and October 1 to reduce weed infestation and maintenance requirements. If it is necessary to plant in the spring, plant as soon as the ground can be worked and when the soil is free of excess moisture.

Installation of new lawn areas: In general sod is recommended in areas that need immediate use and seed is recommended for all other areas. Most seed mixes should incorporate improved, low maintenance, slow growing, drought resistant and shade tolerant seed cultivar mixes of Kentucky Bluegrass and Fescue. On steep slopes, stake sod installations and protect seed applications with biodegradable erosion control fabrics.

Watering: Water lawns as necessary to maintain normal growth and color. Soak the entire root area. Avoid light, frequent sprinklings. Watering lawns during the dry months of summer, does not appear to be a realistic possibility at this time given the current budget, maintenance crew size and limited sources of water at most sites.

Mowing: Mow to an average height of 3". The most serious issue is the routine removal of grass in the immediate vicinity of gravestones and tombs. Power mowers can scar and break stones. The types of stone used in older gravestones tend to be softer and more easily damaged than granite. The best current solution is to mow with lawn mowers to within 12" of gravestones and tombs and then use weed whips [rotating nylon filament trimmers] to trim the remaining area. The use of weed whips is permissible at granite, possibly slate and brick, but not marble markers. Metal hand trimmers should not be used because they can abrade stone. At the marble gravestones, and perhaps slate, consideration should be given to removing grass from areas around the bases of the stones. With most maintenance crew staffing, hand trimming is not feasible nor is the removal of lawn by hand to maintain a vegetative free zone adjacent to gravestones.

Frequency of Mowing: An ideal schedule would include mowing every 5 days from the beginning of the season to mid June, every 10 days from mid June to mid August, and every 5 days from mid August to the end of the season. Mowing just once or twice a year has some appeal in grounds with a low visitor population. However, the removal of grass adjacent to gravestones would be more difficult with longer and thicker grass blades, which in turn could potentially cause more damage to gravestones.

Weed, Disease and Pest Control: The use of salt, chemical weed killers as well as insect and disease sprays should be discouraged to prevent potential damage to gravestones. Many of these materials contain salts and acids which can be damaging to marble and limestone markers. When chemical controls are recommended, the formula should be checked with a stone conservator before use. Provide the appropriate pesticide application in late spring and early fall, if necessary. Do not treat a new lawn until its second year of growth. Do not burn grass in a historic burial ground or cemetery.

*Weed whip,
Western Cemetery, Portland*



Rolling: Roll lawn areas in the spring as necessary to repair frost heaving irregularities caused during the winter. Use a light roller and roll the lawn when the soil is fairly dry, and freezing weather has passed.

Aeration: In sites with heavy visitation, aerate compacted lawn areas twice a year during the spring and late summer or early fall. Tines should not penetrate more than a 3" depth to protect buried resources. Do not aerate when the soil is extremely wet or dry.

Soils

Issues

Soil Tests: Soil analysis and testing helps determine the proper quantity and ratio of nutrients and other additives to improve a soil. Tests for pH and fertility levels should be made every 3 to 5 years to determine fertility changes made with basic treatments and to give a bench mark for further soil improvements. It typically also takes 3 to 5 years for the soil and the basic treatments to reach an equilibrium. Testing can be performed at places like the soils laboratory at the University of Massachusetts.

*Lawn mowed infrequently,
East Parish Burial Ground, Newton*



Liming: Lime serves several important functions. It is of particular value in correcting the acidity of the soil. It also changes the structure of the soil, hastens bacterial action in the soil, aids in the liberation of plant foods which otherwise remain in the soil in unavailable form, hastens the decomposition of organic matter and supplies a small amount of calcium, which is one of the essential plant foods. By reducing the acidic nature of the soil, lime also helps protect in ground marble and limestone markers which are susceptible to acid damage.

Recommendations

Ground limestone should be applied every 3 to 5 years as determined by soil test results to bring lawn areas to the preferred 6.0 to 6.5 pH level. If a lime application is necessary, apply it 2 to 3 weeks prior to fertilizing. The soil pH must be at the proper level to make the benefits of a fertilizer available to plants. Lime should not be used in combination with animal manures or with nitrogenous fertilizers, as it causes the rapid release of ammonia. A fall application of lime provides time for it to break down in the soil before spring growth.

When applying lime for new lawn construction, it should be spread over the surface of the ground and thoroughly mixed with the upper few inches of soil. The rate of application depends upon the form in which the lime is applied and the texture of the soil. The rate of application of ground limestone should be determined by soil testing and should not exceed 75 pounds per 1,000 square feet at any one time. For new lawns lime should be applied either in early spring or late fall, with early spring [April] preferred. On established lawns or under trees, lime should only be surface applied so as not to disturb below ground elements or roots.

Fertilizing: Supplemental fertilizer improves vegetative health and vigor in a short period of time. Lawns and trees are both heavy consumers of nitrogen and they compete for it. Because nitrogen leaches from the soil, it should be applied annually. Application methods are different for trees and grass. If fertilizer is applied on the surface, the grass absorbs most of it.

Soil tests are required to determine fertilization needs. Lawn areas should be fertilized a minimum of twice a year to maintain a healthy lawn. Light, frequent applications of readily available Nitrogen fertilizers are preferred over heavy, infrequent applications. Lawns in this area generally require 0.5 pounds of Nitrogen per 1,000 square feet per growing month. Fertilizer should be applied with a mechanical spreader when turf is dry. This work could be either contracted out or performed by maintenance crews.

All trees should receive an annual application of fertilizer to sustain a reasonable level of health. Fertilizing with a slow release fertilizer with a ratio of 3-1-1 will not only improve the health but will also prolong the life of a tree. Trees should be subsurface fertilized to a depth of 12" at least every other year during the growing season, with Spring or Fall preferred. This could be contracted at the same time as pruning.

The chemical formulation of all fertilizers proposed for use should be checked by a stone conservator prior to use to prevent potential damage to gravestones and other artifacts. Many fertilizers are acidic which is detrimental to marble and limestone. Ideally a nonacidic, slow release, organic fertilizer should be used to reduce the potential conflict between stone conservation and the desire to obtain healthy vegetation.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

All sites have pedestrian access, but few offer universal accessibility because of slope considerations, absence of paths, and/or the condition and narrowness of paths. The widths of paved paths vary, but tend to be in the 30" to 36" wide range. These and historic impediments make it virtually impossible for many sites to be completely universally accessible.

Deteriorated path, Old Cemetery, Spencer



Recommendations

Universally accessible improvements should be made where feasible and where visitor demand merits such improvements. Gates need to have at least a 34" clear opening to be considered universally accessible and paths should be at least 48" wide to meet accessibility requirements.

Many sites have accessible slopes and could be made more universally accessible if paths were improved or provided. However, path systems are not necessarily recommended for each site. Some paths are too steep to make accessibility possible and would require a significant amount of excavation to reduce slopes to an acceptable gradient. Proposed excavations in historic sites should generally be avoided. If a new path is absolutely necessary, plans and excavation requirements should be evaluated by an archaeologist.

Vehicular Access

Issues

Vehicular access has been and needs to be provided to most sites for service vehicles. Many sites also have vehicular routes for visitors.

Recommendations

To accommodate service vehicles, gate openings should be 12' wide. The minimum acceptable opening for small service vehicles is at least 8'. Gate openings between 6.5' and 8' could be considered accessible only to very small vehicles.

Security

Issues

Few properties presently have lockable gates but most are contained within fences and walls. Some of these enclosures provide unintentional or unauthorized access through breaches made by vandals or deferred maintenance. Some have walls or fences that are easily scaled and others have open access off a street with no fence or gate.

Recommendations

Ideally, all of the historic burying grounds and cemeteries should be open to public access during the day. Security should be maintained at other hours to protect the resources of these properties. Lockable gates should be maintained at some of the sites. Vandalized fences and walls should be repaired to deny unauthorized and inappropriate access. These issues are discussed under the topic of administrative management.

VANDALISM

Issues

Vandalism tends to be more of a problem in older inactive sites without adequate security measures and where visibility is difficult. The impacts of vandalism include toppled grave markers, vandalized tombs with doors removed, painted graffiti and broken glass. The latter is usually found at the rear of a site, away from public streets. Some sites also have problems with indigent inhabitants and illicit activities. Trash and piles of various types of debris were found at some sites and at adjacent properties. Dogs or rats have not been a problem reported on any of the sites.



*Vandalized monument,
Mount Hope Cemetery, Boston*

Recommendations

Efforts should continue to reduce the misuse of these sacred grounds and remove evidence of vandalism. Where necessary, sites should be kept fenced and locked when not open to visitors. Security lighting should be maintained to improve visibility where deemed necessary. Vandalism and other problems should be reported promptly to the community governing body. The local Police Department should be notified immediately if an act of vandalism or other delinquency is in progress.

A stone conservator should be consulted to determine the gentlest effective means to remove various types of graffiti from specific grave markers and other elements.

*Chip sealed bituminous concrete,
Charlestown Heights, Charlestown*



CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

The development of pedestrian and vehicular circulation systems varies a great deal in the sites examined. Some sites have excellent circulation systems. Others have improved, but incomplete, circulation systems, or only remnants of paths remaining. Some may have had circulation systems, but none remains today, while others have never had path systems.

As a site becomes more heavily used and as more interpretive materials are provided directing visitors to significant sites, circulation systems will need to be improved to respond to those demands. The impact of the provision of interpretive materials with an uncoordinated or incomplete circulation system can be very evident with deeply worn paths through lawns.

Recommendations

The development or expansion of workable and logical circulation systems should be a high priority for sites with heavy visitation. Improvements should be made to path systems when public use increases because lawn can not withstand heavy and constant foot traffic. If visitation increases significantly in any of the sites, the introduction or expansion of path systems should be reconsidered.

Clean paths and drives weekly. Remove snow, keeping walks passable at all times and as safe as possible. Start removal when accumulation reaches 1". Spread sand on icy spots and steps. The use of excessive amounts of salt or some chemical deicers is not recommended for deicing because they can be toxic in excessive quantities to trees and other vegetation. Salt also accelerates the decomposition of mortar and concrete and is potentially detrimental to gravestones. Repair paved areas as needed. Patch depressions of 1" or more annually. Repair cracks every 5 years.

Where unit pavers like bricks have settled or have been removed, the base must be corrected to the proper level with the addition of new base material to match existing. The new base should be firmly compacted. When the paving units are reset or replaced over a previously settled area they should meet the line, grade and pattern of surrounding pavers.

Pavement Materials

Issues

The earliest burying grounds had no paths or pavement materials because space was at a premium. It has been noted that cows often grazed on the grass. As time passed many different paving materials were used in these historic burying grounds and cemeteries. The initial paths on most sites were most likely constructed of gravel, cinders or stone dust and were changed over time into harder materials like slate, brick, concrete and macadam. Concrete was first used in 1878 in Boston as an experiment in Copp's Hill Burying Ground. It was deemed satisfactory. The use of macadam at Boston's Mount Hope Cemetery began in 1909 and chip sealed surfaces in 1927. Most of the paths found in this investigation are now lawn.

In recommending paving materials, consideration must be given to historic and visual appropriateness as well as initial and long term cost and maintenance implications. One goal should be to make pathways visually recede into the landscape so they do not visually compete with gravestones and other historic artifacts. In regard to appropriateness, lawn would be the preferred choice for many of the burying grounds, particularly those without notation of a paved historic path system. However, as public use of a burying ground increases, lawn can not withstand the adverse effects of heavy foot traffic. Softer paving materials, like gravel, cinders, crushed stone or stone dust, can not be maintained on a slope of any significance without a great deal of maintenance and expense. Some sites are level enough for one of these materials, but the regular maintenance requirements may be too much for a maintenance staff to contend with. It is also difficult to maintain them in a safe condition for public use.

In terms of visual appearance, bluestone or slate would certainly harmonize with the gravestones in many of the burying grounds. But it could be confusing to see the materials used both vertically and horizontally. Questions could arise as to whether the pavers were actually former grave markers. In addition, the cost of this material may be prohibitively high in relation to other materials.

Cast in place concrete is typically too bright in value and distracts visitor's attention from gravestones and tombs, the primary display. There are similar issues with precast concrete unit pavers unless the color value is toned down enough to recede in context with the gravestones. Brick pavers also tend to call too much attention to themselves. Brick or precast concrete unit pavers set on a stone dust bed over bituminous concrete or concrete pavement offers flexibility in terms of future repair and replacement. It has a higher initial cost, but longer life expectancy than some other choices. Without a bituminous concrete or concrete pavement base, grass growing between unit pavers is a major problem that can be difficult and costly to maintain.

Bituminous concrete is dark enough to recede into the landscape but generally does not have the textural qualities of unit pavers to give it an appealing scale. The addition of a crushed stone application, or chip seal, on bituminous concrete can provide those textural qualities and give the visual impression of the more historic softer materials. Bituminous concrete is a relatively durable material, easy to maintain and relatively inexpensive to construct.

Recommendations

Consideration must be given to historic and visual appropriateness as well as initial and long term cost and maintenance implications. Chip sealed bituminous concrete is the recommended paving material for most of the historic burying grounds and cemeteries that require a paved surface and are not heavily snow plowed. Some sites, like Greenlawn Cemetery in Nahant, should continue to maintain crushed stone surfaced circulation routes because a significant investment has already been made and it is an appropriate material. Most sites should continue to maintain lawn circulation routes as previously discussed. The timing of improvements is discussed under Circulation Systems.

Edging

Issues

Few of the paths or drives in these historic sites are edged with curbs and/or gutters to control storm water runoff and reduce erosion potential. However, paved gutters were added to some of Boston's historic burying grounds and cemeteries in the 1860s.

Recommendations

Edging should not be introduced into these historic sites, unless it is deemed both necessary and historically appropriate.

Steps

Issues

Most steps on these sites are associated with family burial plots.

Recommendations

Refer to recommendations for edging of family plots.

GRAVE MARKERS

Materials and Considerations

Issues

The deterioration of gravestones is becoming increasingly evident. Stone is subject to deterioration by natural weathering, and that process has been accelerated by atmospheric pollution. Porous stones like marble, sandstone, brownstone and limestone are more subject to the effects of weathering than nonporous stones like granite.

Slate and Sandstone: These silicate stones were the predominant material used for grave markers through the 17th, 18th and early 19th centuries. Sandstone, including brownstone, was used much less frequently than slate although some mid 1800 cemeteries have sandstone obelisks.

Zinc markers, Center Cemetery, Douglas



The vast majority of grave markers are made of slate or sandstone. Shaped like a doorway, they suggest passage from this world to the next. Smaller footstones were often used in addition to further demarcate the limits of a grave site. Headstones and footstones in combination suggest a bed, or final resting place.

Some of these stones have survived in fairly good condition. Slate's relatively smooth surface does not absorb much water and both stone types are less affected by acid rain deposition than marble. The incised lettering and low relief carving on slate is often still quite clear. Both slate and sandstone were geologically formed in horizontal layers. When the stones are set vertically with the horizontal layers facing upward, exposing the bedding planes, they often begin to delaminate or separate over time. When moisture seeps into the openings between the bedding planes, freeze-thaw cycles in this climate force the planes apart. Many of these stones, particularly the less dense slates, show some degree of delamination.

Sandstone also has the problem of being a granular stone. The binder between the grains weathers more rapidly than the silica [sand] grains, causing erosion of surface detail.

Marble and Limestone: These calcium carbonate stones came into use during the 1810s and remained very popular through the 1870s. The rural cemetery movement became a showcase for carved marble and most sites of this era contain a very high percentage of marble markers. Marble has not endured as well as the earlier silicate [slate and sandstone] markers, particularly in the northeastern states, because it is very susceptible to acid deposition and other pollution damage. Most of the marble markers have lost surface detail due to acid rain and general weathering.

Many of the marble markers that were set into bases of brownstone, marble or granite with slots cut into them to hold the markers are now broken with some or all of the slots left filled with broken pieces of marble.

Granite: During the 1870s and 1880s the use of granite increased because of improved equipment related to quarrying and stone carving. Now the standard for grave markers, granite is relatively impervious [more than slate] and endures quite well in outdoor environments. It is the hardest and most stable grave marker material in general use.

Zinc: Zinc markers are an example of a controversial late 19th century material called "white bronze". Although durable and inexpensive, these markers were prohibited in many cemeteries because they were perceived of as "cheap and faddish". Manufacturers promised better durability than marble. Some considered zinc as good as marble aesthetically. Zinc could be cast to take very fine artistic detail and lettering. The excellent condition of the zinc monuments at many of these sites more than a century later supports these claims.

Recommendations

Seasonal site visits should be conducted to check for fallen stones and any other cases of accelerated deterioration due to weather and/or vandalism. Repair/restoration efforts should be monitored at least once each year. Gravestone rubbings should be prohibited because the process can leave wax or ink and cause surface losses.

GRAVE MARKER CONSERVATION AND REPAIR

General

Issues

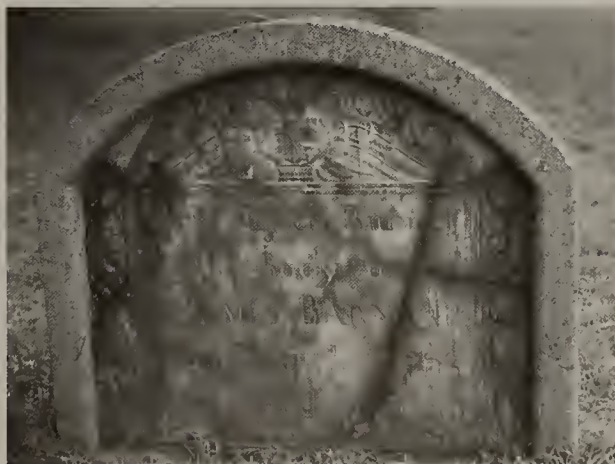
Stone conservation emphasizes the preservation of the original object as found rather than its restoration. Conservators have numerous and varied opinions on the issues of grave marker repair, restoration and protection. The suggestions and recommendations presented here are a relative, but not complete, consensus of opinion. Professionals should always be consulted on these matters and a permit must be filed with the Massachusetts Historical Commission prior to undertaking any of these efforts.

There is a philosophical conflict in the major approaches to preserving historic cemeteries. One approach is to preserve the integrity of a cemetery as a collection of memorials made for that location. The other approach is to preserve the integrity of individual gravestones. The latter is compounded by a major question regarding gravestones, that is whether to move some of the best early stones indoors for safekeeping. This was suggested as early as 1938 to prevent theft and protect against the detrimental effects of weathering. In the past, important fragments were encased in granite, concrete or copper, or a copy [identified as a replica] was erected while the original was placed indoors.

Recommendations

Many grave markers require repairs and/or cleaning because of general deterioration, vandalism, inappropriate previous repair techniques, etc. Specifications and trained supervision must accompany all conservation treatments. The repair of broken, vandalized, otherwise damaged or deteriorating gravestones should be assigned to professional conservators, particularly when the gravestones have historic value. These general recommendations include mention of many conservation materials which may be used to conserve historic stone and masonry in burying grounds and cemeteries. In no case, however, should anyone attempt to purchase and use these materials and techniques without the supervision of a qualified conservator. The recommendations often do not include information about dilution, methods of application and techniques of removal, dwell time, symptoms of dangerous situations or unforeseen hazards to applicators and stones. The infinitely various conditions of old grave markers require that the use of conservation materials must be done only by experienced persons in controlled conditions.

*Slate marker encased in concrete,
Old Burial Place, Watertown*



Prior to making repairs, all markers should be inventoried and then prioritized for conservation/restoration in terms of significance. Most survey and some evaluation can be performed by trained volunteers and/or municipal staff. Work should be completed according to priority as funds are available. All repairs, resetting and cleaning should be done by professional stone conservators, particularly for sensitive work on historic pieces. It should not be undertaken by general contractors or amateurs, unless the work is done under the supervision of a conservator. Trained local staff can assist with resetting, mortaring into bases and keeping grave markers free of botanic growth and graffiti. Repair of stone masonry other than grave markers in these historic sites may be done by professional masons.

*Iron strap repair,
Spring Hill Cemetery, Marlborough*



Stone conservation programs need to consider the urgency of a condition along with the integrity of a gravestone, visual priorities and cost effectiveness of treatments. Concurrent with archival research, an existing conditions survey should be conducted on site. Periodic surveys measure and evaluate deterioration that occurs gradually. An understanding of the decay processes is considered essential to developing appropriate and effective conservation treatments.

Conservators should document their work thoroughly. Conservation efforts should include documentation of methods and materials used and a close evaluation of the performance of those materials and methods. All repair treatments should be documented before and after treatment in writing and with photographs. All repairs that are documented should be monitored on an annual basis for performance. Reexamine each site at 5 year intervals to evaluate long term condition trends and effectiveness of treatments.

Proper treatments must be based on analysis of the stones and their conditions for any given location at any specific point in time. Miracle cures proposed for all stones and conditions often cause greater damage in the long term. Understanding what does not work might serve future expenditures well, so that investment in repairs which only endure for a short term is done with the knowledge that the repairs will have to be repeated within a year or two. When possible, conservation efforts should also include documentation of past methods and materials used and a close evaluation of the performance of those materials and methods.

Several guidelines should be followed when repairs are required on historic stone.

- Survey the stone and its history to determine its age, source, geologic type and the extent of degradation as accurately and as specifically as possible. This could be considered a modified form of a conservator's standard statement of existing conditions.
- The goal should be a repair that returns the stone to a sound functioning condition with the least alteration of its historic appearance. The repair should not remove all traces of the history of the stone or the passage of time.
- Specify the use of materials suitable for use in outdoor conditions. Many materials are only suitable for indoor conditions and can not stand up to the harsh extremes of the New England climate.
- Specify the use of known stable noncorroding materials to protect stone such as stainless steel dowels [type 304 or better], titanium dowels for monuments, nylon or Teflon dowels for gravestones and monuments prone to vandalism, and lead flashings. Iron dowels should be avoided as they rust, expand and crack stones. Dowels should preferably be set with molten lead. Do not use face pinning, polyester resin adhesives or gray cement grouts.
- Include fabrication and setting tolerances in the specifications as well as joint sizes.
- Include criteria for acceptance in the specifications including viewing distances, and finishes to match weathered appearance of adjacent historic stone.
- Stone dutchman repairs [cutting in a stone patch] are rare, but may be required on large monuments. They are even more rare on small individual grave markers. Where these repairs are required, cut deteriorated stone to a depth of at least 2" until sound stone is reached. Require a sample of the stone to be used for patching. A sample patch should be required that can be incorporated into the final work if acceptable.
- Where epoxy adhesives or grouts are used, the epoxy glue line should be kept back from visible surfaces by 1/4 to 1/2" so that the visible surfaces can be filled with a cementitious material having a historic appearance and composition. Epoxy adhesives should be concealed because the color of epoxies tends to darken over time. Hard or rigid epoxy adhesives should not be used on materials with significant coefficients of expansion like slate and sandstone.
- Prebid and preconstruction meetings should be required to fully acquaint Bidders and Contractors with site conditions, requirements and special conditions.
- Require submittals and mockups [to remain in place until completion of work] for approval for all materials used [mortar and grout formula and samples, dowels, adhesives, parging].
- If field measurements are made by an installer, they should be submitted for review prior to commencement of work.

Resetting Grave Markers

Issues

Upright grave markers are one of the most important visual impressions conveyed to visitors. This gives the appearance that a property is being watched over and cared for. Righting the stones is also one of the least expensive maintenance activities for the value received. Fallen or tilting grave markers should be reset in an upright position. Left in place, a leaning grave marker is more liable to be damaged by lawn mowers. Deterioration may be accelerated because some stones may absorb moisture from the ground or collect rainwater.

The vast majority of grave markers are individual grave markers. By far, the most widespread problem observed was the large number of substantially tilted, fallen, sunken, frost or root heaved gravestones. Stones tilted 15 degrees or more can break off at ground level due to their own weight. Grave markers will suffer less deterioration if they are upright. All grave markers that are lying on the ground are in danger of damage from mowers, pedestrians and weather. Sunken stones subject their inscriptions to lawnmower scarring. Those that are being overgrown by grass may soon disappear from sight. Displaced stones can rub against other stones and fall over on the ground.

Recommendations

All stones that are tilted or toppled should be reset in a secure upright position. They should not however be reset to straighten minor tilts, "correct" orientation, or moved to line them up in straight rows. Markers should not be moved or turned capriciously. Once a stone is moved it no longer serves as a grave marker because it no longer marks a burial site. A marker should not be reset if the stone appears in fragile condition.

Some excavation needs to occur to reset a gravestone because the use of force to straighten one may cause the stone to snap. Some conservators recommend straightening one piece slate and marble grave markers by digging out the soil from the backside of a stone, if possible. This keeps the soil on one side firm for a strong compacted face against which to reset the stone.

After the stone is set on a firm foundation with a cushion of sand, the excavation should be filled with alternating layers of soil with layers of a mixture of sand and crushed stone [1/2-3/4" sharp edged gravel], periodically wetting the earth as it is applied. Topsoil and lawn should be replaced at the surface. The surface grade should slope away from the exposed portion of the marker so that moisture in and on the marker can evaporate as soon as possible.

Other conservators recommend excavating on all sides of a marker and then surrounding it with compacted sand and peastone. This is particularly beneficial when working in soils that tend to retain moisture.



*Toppled marker about to be buried,
Elm Street Cemetery, Braintree*

*Toppled marker about to be buried,
High Street Cemetery, Danvers*

*Slate marker precariously leaning against a wall,
High Street Cemetery, Danvers*



Generally, 40% of a single slab marker is below ground. Stones with insufficient bases or shaft length should not be reset. They should remain on site temporarily or be removed for storage until a suitable mounting technique is developed. They can temporarily be leaned against the back of another stone, or against an adjacent building or fence until repair is done. This should not be considered a long term solution, because leaning stones are subject to breakage.

Gravestones should not be set directly in concrete, even incomplete broken markers. This setting method is too rigid, and soluble salts in the cement may migrate into a porous stone forming efflorescence and accelerating deterioration. However, markers broken at or below ground level may be reset with a buried concrete foundation provided a soft, high lime content mortar joint separates the marker from the concrete. This method can also be used for marble markers. Dowels should not be used on slate markers because drilling can cause delamination and destroy a stone.

Slate Markers

Issues

Various treatments used to stabilize conditions such as splitting, cracking and delamination of slate markers lead to losses. A variety of repair and conservation efforts for slate markers are apparent in historic burying grounds and cemeteries including encasement in concrete, encasement in bronze, encasement in sheet copper, encasement in slate, bronze bolts, bronze and iron straps, material applications and various coatings. Some of these efforts were made almost 100 years ago and most are either unsuccessful, unattractive or both. A number of different methods have had disastrous effects.

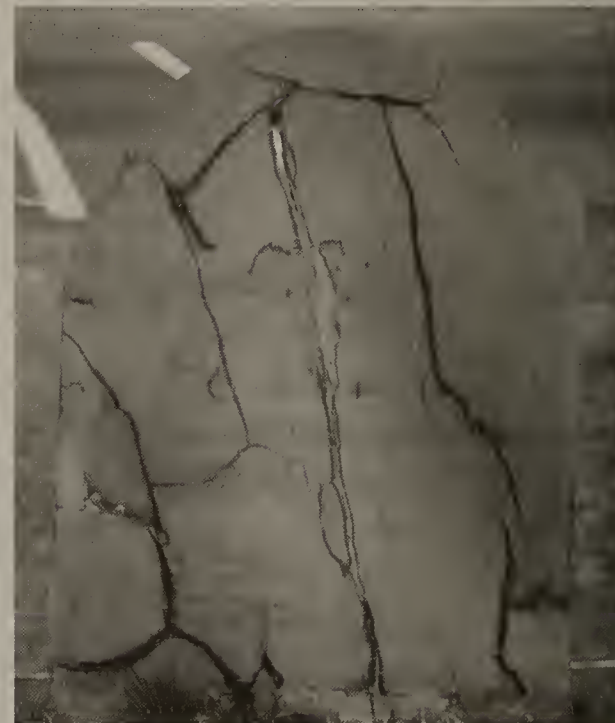
*Leaning markers with concrete foundations,
Old Cemetery, Spencer*



*Delaminated slate marker,
Wellfleet*



*Fractured slate marker,
Chocksett Cemetery, Sterling*



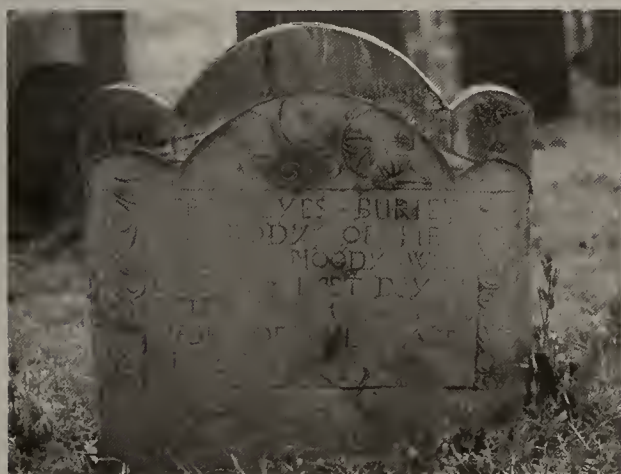
Some early repairs and many contemporary materials that were considered miracle cures when first used 10 or 20 years ago have failed, leaving the stones in fragments today. Epoxy repair techniques, and later polyester resins, were often specified for the adhesive repair of gravestones in the 1970s and 1980s. Many of these repairs failed within 5 to 7 years because of the adhesive's sensitivity to ultraviolet light, thermal conditions and external stresses. The encasement of slate in various materials must be given thoughtful consideration because of the high coefficient of expansion of slate compared to other materials.

Recommendations

Stones that have vertical splits or are about to delaminate present difficult conservation issues and should be treated by a stone conservator. Ideally, moisture should be prevented from entering the voids, with a substance that remains flexible and does not expand to push the slate layers further apart. Previously used fillers have proved unsatisfactory. Mortar and adhesives should not be used to reattach peeling stone, as that material inserted between layers will eventually act as a wedge, applying pressure that continues the splitting process. Before filling any of the delaminations on slate tablets, a careful re-evaluation of all existing methods of treating that condition should be completed.

Until a long term solution is discovered, consideration could be given to installing a noncorroding metal cap [perhaps lead or anodized aluminum] that covers the skyward edge, limiting intrusion of rain and snow into the stone and movement of the stone layers. This is not a particularly attractive solution. Earlier attempts using such caps in bronze, copper and iron have proved mechanically stable, but the resultant corrosion stains on markers can be permanent and unsightly.

*Slate marker with copper cap,
Old Hill Cemetery, Newburyport*



Marble Grave Markers

Issues

Most of these relatively porous stones have lost surface detail due to acid rain, other pollution damage and general weathering. Many others have suffered the negative impacts of vandalism. Conservation needs are significant in this part of the country.

Recommendations

The recutting of markers should never be done. This irreversible alteration of a historic artifact violates all codes of conservatorial ethics. Where surface detail has been diminished or lost, the honing of sugared marble surfaces is also **not** recommended because it results in loss of the information cut into the stone.



*Acid rain damage,
Garden Cemetery, Chelsea*

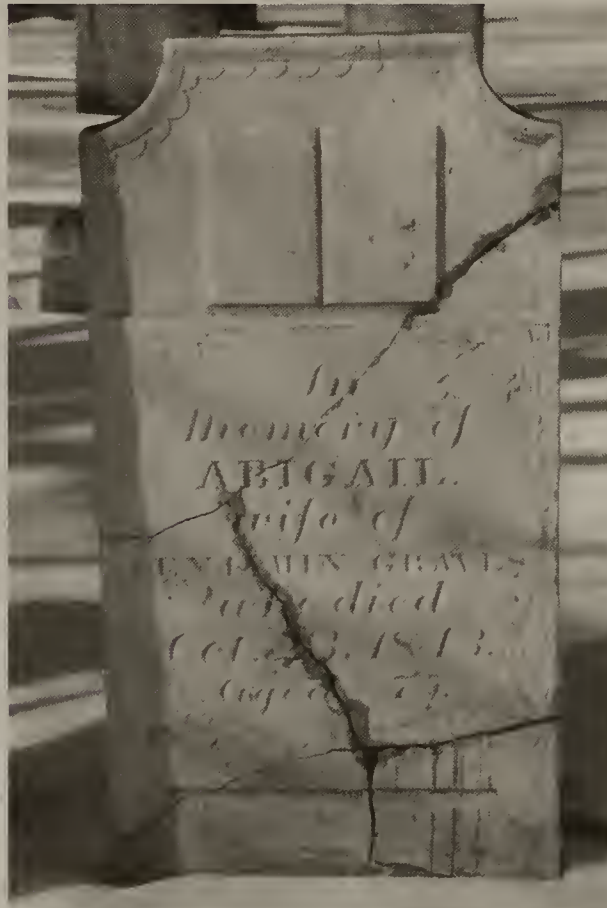
Two part markers that have come apart or been poorly reassembled should be reconstructed in their original configuration. Priority in dowel replacement should be given first to marble markers that are visibly cracked or spalled, and second to marbles with visible metal stains at the junction between marker and base. Recommending an appropriate method to join two part markers is based on determining what may cause the least damage when the stones are subjected to vandalism and what will resist corrosion when the joint filler fails. Iron rods are clearly not recommended.

*Two part marble marker with deteriorating dowel,
Village Cemetery, Tisbury*



Multipart stones that have come apart should be repinned with noncorroding dowels. Ideally these should be set in lead, preferably molten although lead wool and/or lead wedge strips tapped in place may be acceptable. Lead work should be done by an experienced and skilled tradesman. An epoxy fill is often used by conservators because less time and training is required.

*Poor adhesive repair,
Riverside Cemetery, Sunderland*

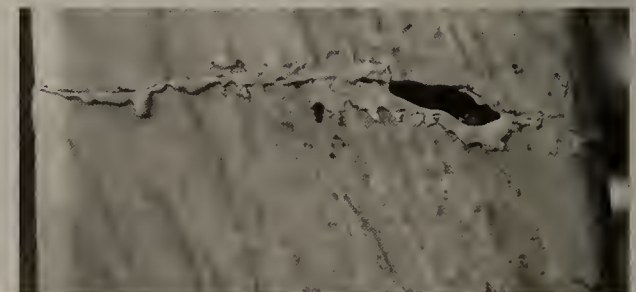


The joint between the vertical stone and base stone should be filled with a material matching the original installation such as lead or a high lime mortar. The latter may not be as stable in the long run as lead which has the added benefit of killing mildew and fungus as water or ambient moisture bring some of its ions into solution and washes them down over the stone. No polymeric caulk or sealant should be used.

Repair of broken stones may be done using Akemi or other appropriate adhesives if the break is clean and not worn at the edges. This is particularly appropriate for marble. The adhesive should match the color of the stone, if it will be visible. The use of cement or lime mortar is not recommended for these repairs. Teflon dowels may be used in cases where reinforcement is required.

Mounting truncated stones and fragments requires the development of clips to attach them to "blanks", new stones cut to support fragments. This method is proposed for use if ready made clips can be found or custom clips can be fabricated according to a conservator's specifications.

*Poor adhesive repair,
Elm Street Cemetery, Braintree*



Cleaning Soiled Stones

Issues

It is difficult to remove even some of the soiling from historic stones safely. Stones with heavy soiling have limited legibility. Airborne particles that settle into the pores and crevices of porous stones are even more difficult to remove.

Recommendations

General cleaning of all stones is not necessary and less cleaning is generally considered better than over cleaning. Soiled markers should be examined for legibility of inscriptions. If the inscription is fully eroded and the surface has no legible lettering or designs, the stone should be given a lower priority for treatment. No stone should be cleaned if its stability is in question.

Much more care needs to be exercised when cleaning marble compared to granite. Marble markers should be cleaned only if the surfaces are stable and not sugaring. If a grave marker is cleaned, the entire surface should be treated. Otherwise, the stone will look mottled and future soiling or growth will occur differentially and may appear more intense in some areas than others.

Some cleaning may be done using only a very soft natural bristle brush with distilled water and a properly diluted very mild non-ionic detergent in solution, safely removing some soiling from grave markers. Sound marble should not be cleaned with any more than regular hose pressure. These simple things can prove dramatically effective against environmental soil.

Never use any acidic compound or household bleach for cleaning. Acid cleaning marble should be avoided, not only because of the damage it can cause but also because it tends to leave marble with an orange cast. Ordinary household bleaches should never be used on marble because of discoloration and the long term detrimental effects of destructive salts.

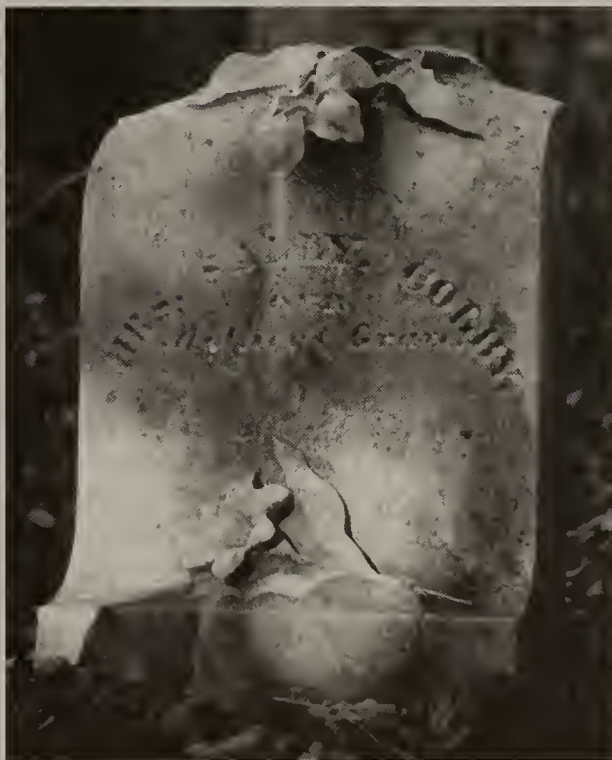
Baking soda blasts for granite should be avoided because it can cause salt build up and general site clean up is difficult.

The removal of stains should be left to professional stone conservators. After the nature of a stain is determined, an appropriate solvent and poultice is typically applied and then covered with plastic for 24 hours. At that point the poultice is removed, the stone is thoroughly rinsed with clean water and checked for a neutral pH balance. Oxalic acid may be used on granite. Clorox, Naval Jelly or Lime Away should not be used on any stone.

*Marble marker with orange cast [acid cleaned],
Pere Lachaise Cemetery, Paris*



*Soiled marker,
Garden Cemetery, Chelsea*



GENERAL GUIDELINES FOR CLEANING STONE GRAVE MARKERS

Evaluate the Surface to be Cleaned

Determine the type of stone.

Check the entire stone for condition. Some areas of a stone may be more weathered than others and need to be treated more gently.

Determine the type of soiling.

Do Not Clean:

If the stone has cracks, loose or broken parts, is tilted or unstable.

If grains of the surface come off on your hands at the touch.

If there are underlying hollow areas [gently tap the surface with your finger].

If joints are open. Point first with soft lime mortar or lead as appropriate prior to cleaning. Do **not** use silicone caulk.

If the temperature is below 40° F, frost is anticipated, or temperature exceeds 85° F.

Do **not** attempt to clean stones without first receiving proper direction.

Do not clean stones often. Even the most carefully cleaned stone loses some stone particles with each cleaning.

Test the Water

Test the water for excessive amounts of salts, iron and other potentially deleterious materials.

Use filters at faucets or in cleaning equipment if needed.

Select the Appropriate Equipment

Garden Hose: Use on fragile stones and for gentle cleanings.

Steam Cleaner [with variable pressure and measurement gauges]: Use on all stones, varying psi accordingly.

Pressure Washer [with variable pressure and measurement gauges]: Use **only** on stable granite and **only** with a fan tip nozzle.

Washer Nozzle: Always use a fan tipped nozzle with no less than a 15° spread.

Brushes: Use soft nylon brushes or soft natural bristle masonry brushes. Soft toothbrushes and sometimes smooth wooden sticks like ice cream sticks or tongue depressors are acceptable for intricate areas as are Q-tips. **Never** use wire brushes, brillo pads, steel wool, scotchbrite or other abrasive pads. Do **not** use metal tools to clean stones.

Miscellaneous: Make sure water is available. Provide plastic buckets for non-ionic detergents and biocides. Do not mix solutions. Provide spray bottles or small pumps with sprayers for the application of non-ionic detergents and biocides. Provide clean soft rags, natural sponges, goggles and rubber gloves.

Determine the Appropriate Water Pressure

Garden hose pressure is best. Use the lowest effective pressure because water can act as a damaging abrasive, particularly on old weathered stones. Pressure washing can reduce the longevity of a stone and reduce legibility. Note that water is used by some stone fabricators to cut granite.

For Marble, Sandstone, rough cut Limestone, damaged Slate and other stones: Use low water pressure 35-60 psi maximum on sound stone. Use a garden hose or hand held steam cleaner. **Never** use high water pressure.

For Slate, Rose Quartz and other silicate stones: Treat the same as for Marble.

For Limestone: Treat the same as for Marble.

For Granite: Use 100 to 600 psi maximum on sound stone. Other stones will abrade at this pressure.

Select Appropriate Cleaning Solutions

Clean only if necessary. Always use the weakest cleaning agent that cleans stone effectively. Do not increase the recommended strength of a given solution. Use only those solutions recommended for the type of stone being cleaned.

Soapstone: Use water only.

Slate and Sandstone: If water is ineffective, use a sodium free, non-ionic detergent like PhotoFlo, Triton-X or Igepal at a rate of one ounce to five gallons of water.

Marble and Limestone: If water is ineffective, use a sodium free, non-ionic detergent like PhotoFlo, Triton-X or Igepal at a rate of one ounce to five gallons of water. For more stubborn cleaning requirements use Vulpex at a rate of one part Vulpex to 2 to 4 parts water. **Never** use household soaps, bathroom and sink cleansers, abrasive cleaners or solutions containing sodium like Ivory Soap, Clorox [sodium hypochlorite], Borax, Spic and Span, Comet, TSP [tri-sodium phosphate], Calgon, Fantastik, Formula 409 or other formulations with caustic lye [sodium hydroxide, NaOH].

Biological Growth Remover for Marble and Limestone: If an acceptable test is achieved, use calcium hypochlorite [CaOCl sold as HTH or SST in pool supply stores], Architectural Biocide D-2 or hydrogen peroxide. A 1 to 2% solution [125 to 250 cc in 5 gallons of clean warm water] with a small amount of non-ionic detergent [0.2% Triton-X-100, 20 to 25 ml in 5 gallons of water] is recommended. Use 2 ounces by volume of dry HTH to 5 quarts of water and note that it must be dissolved in warm water. Vulpex is an effective, although expensive, detergent for black and green growths on granite. **Do not** use Clorox.

Never use household bleaches for cleaning.
Never use a cleaning solution more acidic than pH 4.5.

Never use wire brushes.

Never use high pressure spraying or sandblasting.

Clean with the Least Aggressive Method

Remove dry loose particles with a soft bristled brush.

Gentle cleaning with clean water is best.

Test selected cleaning method[s] in a small unobtrusive area, preferably on the back of a stone, before general application.

Prewet the stone thoroughly. **Do not** press the nozzle up against the stone. The softer the stone, the farther back from the surface the nozzle should be.

Flush thoroughly with a low pressure hose to remove most surface dirt.

Then, if determined necessary:

Prewet the area with water before using a cleaning solution.

Prepare a dilute alkaline solution, 1 ounce in 5 gallons of water.

Apply the solution from bottom to top with a spray bottle.

Allow solution to soak into the surface for 3 to 5 minutes.

Scrub gently with a soft nylon brush or soft natural bristle masonry brush, cleaning from bottom to top to avoid streaking.

Rinse thoroughly with clean water from top to bottom. **Do not** allow cleaning solutions to dry on a stone surface.

Rinse for at least 5 minutes and **do not** direct the rinsing spray at one area for longer than 5 to 7 seconds.

Check pH for neutral balance.

Check the stone once it is dry and later in the season.

Removing Biological Growths

Issues

Some lichens and biological growths are acidic in nature or produce acids that can etch the surface or eat into stone, particularly porous stones like marble and limestone, in addition to discoloring them. Some lichen penetrate stone causing microfractures. Others develop parallel with the stone surface and may be mechanically removed. It is possible that some protect the surface of stone reducing degradation from weathering.

*Slate marker with biological growth,
Old Burial Ground, East Bridgewater*



In general, the larger the population of certain types of growth above the stone surface, the more decay is caused below the surface, and thus the greater the need for removal. On the other hand, more damage is often incurred by removing these growths than the decay caused by them. Removal may be desirable but can result in considerable harm. Careless intervention can make the process of degradation more rapid. At the Botanic Garden of Ajuda in Lisbon, it was recently decided to leave botanic growths in place on a very important limestone balustrade rather than risk causing irreparable damage.

Recommendations

A stone conservator should determine the type and nature of biological growths and the condition of a stone prior to taking any action. If it is determined that it is a growth that can be removed without causing damage, a conservator may proceed with caution. Biological growths on the surface of markers should be removed **only** if the stone is stable to the touch. Only those older stones which have substantial moss or dark botanical growth should be cleaned.

One approach to removing some surface biological growths is dry brushing with a soft brush during dormant seasons. With great care, soft wood or flexible plastic scrapers may be tested, but care should be taken not to remove any surface grains of a stone, particularly if it is marble or sandstone. Another good conservative approach entails the use of copious wetting and neutral poultices.

It is possible to retard the harmful biological growth on historic markers. Seek the advice of a professional conservator for how that may best be done for any given stone and growth. Always be sure to have supervised testing of any material recommended before working on a whole stone.

After brushing and/or scraping, a biocide solution may be brush applied to retard recolonization and to remove exceedingly stubborn growths. Markers with stable surfaces may be brushed with a biocide solution and then washed gently.

Once every 5 years is a typical cycle of retreatment, but local conditions of exposure to vegetation, water and shade may suggest more or less frequent application.

Marble Protection

Issues

Marble components have generally deteriorated much more than the older slate components. Most of the white marble stones have lost surface detail due to acid rain and general weathering. A survey should be undertaken to identify and locate the most endangered marble markers at each site, designating those that still have legible inscriptions for immediate conservation. Many however are now illegible.

Recommendations

A long term plan should include selective conservation. Enough carved detail and lettering must remain legible to make a stone worth conserving. Where there is no legible lettering, conservation or consolidation is not advisable.

Do **not** treat stones with protective coatings that are impermeable to water vapor. These coatings can be very harmful to stones over time and others are ineffective.

Some conservators recommend that significant marble components have a clear protective coating applied to prevent further deterioration. The coating should have a proven track record like "BMC" or "Conservare". These materials have a low risk and can be applied by less experienced personnel. This will last 8 to 10 years before wearing off. Reapplication will be necessary at that time.

While there are conflicting opinions on the matter, some conservators recommend the use of stone consolidants like "Conservare OH Consolidation Treatment". These require more attention and experience during application and need a water resistant top coat for effectiveness. A two coat system is generally recommended with a first coat of "Conservare OH Consolidation Treatment" and a second coat of "Stand-Off Stone, Tile and Masonry Protector", both manufactured by ProSoCo, Inc., Kansas City, Kansas or approved equal. Materials should be applied in strict accordance with the manufacturer's recommendations, after the marble is clean and repointing is complete. This system should be reapplied in 8 to 10 years.

Zinc Markers

Issues

These late 19th century markers have generally endured well and most require little attention at this time.

Recommendations

Annual inspection of zinc markers and monuments is recommended to look for splits or evidence of slumping, a form of metal fatigue. Special care should be taken to maintain the foundations of these markers and monuments so as not to introduce stresses that would result in metal damage. All repairs should be performed by a metals conservator.

Previously Repaired Markers

Issues

Where broken stones have been repaired with iron or bronze straps and bolts, they are extremely liable to cracking around the bolt hole. Iron straps not only stain markers, but they also rust and expand, causing the stones to fracture. Bronze straps also cause staining.

Recommendations

When considering whether to remove prior repairs of this type, the main issue is the friability of the marker. Can it tolerate being taken apart? Repairing strapped markers is rarely attempted because of the high probability of causing more damage than leaving the straps in place. Straps are not often used for grave marker repair today because of the potential long term damage.

Damaged or Broken Markers, Fragments and Markers without Records

Issues

The disposition of stone fragments is a significant issue. Uncollected fragments tend to disappear. Power mowers can easily cause these fragments to disintegrate. It is also very tempting for visitors to pick them up and take them home as souvenirs, particularly those with inscriptions or carvings. Another issue is determining what to do with found gravestones that have no records.

Ground disturbance is a concern of state agencies like the Massachusetts Historical Commission. Random digging or unauthorized excavation should not be done in a historic burial ground or cemetery without appropriate supervision. It is often not known how deeply people are buried. Bone fragments have been found just below the surface at depths as shallow as 6 to 8".

Recommendations

Record, collect and properly store out of the ground stones, whole and fragments. Carefully documented salvage of all fragments of fallen stones is recommended. Fragments should be picked up, recorded and stored in a secure location. The ultimate goal should be to eventually return out of the ground stones to the field in their original locations and to reconstruct fragmented stones. This is particularly important for fragments larger than 2" by 2", or smaller if they contain inscriptions or carvings.

*Iron strap repair,
Old Burial Ground, East Bridgewater*



As an alternative, it has been recommended that stone fragments be left where they are found, buried with the location marked. Storage of fragments below ground is considered good preservation by some. As a general rule, granite and slate fragments can be buried. Marble and sandstone should not. While it is desirable not to remove fragments from sites, marble and sandstone fragments should be moved indoors because of their more porous nature and the potential of further deterioration.

*Settlement at base of monument,
Village Cemetery, Tisbury*



50 - General Recommendations

Conservation efforts should include documentation of all stones or monuments removed from sites. Damaged gravestones that have lost their nomenclature [inscription] and/or artistic merit should not be repaired, but left in place or buried on site with their location documented.

Secure structures on many of the sites, like unused receiving tombs, could be designated as storage areas. If a sufficient amount of storage space is not available, slate and granite fragments can be buried, but not marble or sandstone because the acidic nature of our soils is detrimental to them. When burying fragments, document the fragments first, then bury them 10-15" deep behind the standing major fragment to which each belongs. Set them flat and face up on a 2" deep bed of clean graded sand, then cover them with sand and 6" of topsoil. The burial of grave markers, including fragments, should be conducted under the supervision of a qualified archaeologist and under permit from the Massachusetts Historical Commission.

Approximate Grave Marker Repair Costs

Repair Type	Cost / Each
Reset, Toppled or Leaning	\$150-175
Repair Loose	175-250
Repair Broken	250-300

The above costs are average costs and do not include documentation. Markers with complex repair issues can cost substantially more.

Repairing Erosion and Settlement at the Bases of Markers and Monuments

Issues

Many of the larger markers exhibit settlement and/or erosion at ground level exposing foundations of dry laid or mortared broken stone. Left alone this process will continue, undermining the structural stability of the marker.

Recommendations

Repair of settlement includes providing a porous fill and/or topsoil to return the ground elevation to the proper level. Surface drainage conditions should be inspected and corrected to prevent concentrated flows of water at the bases of large structures.

STRUCTURAL ELEMENTS

Issues

The repair and restoration requirements for elements like walls, tombs, vaults, larger monuments, plot edging, etc., are different than for grave markers. Most of these are constructed of a number of smaller components.

The principle underlying all conservation work is the retardation of the natural process of decay in a manner that does not cause any other sort of harm. Water penetration, combined with freeze/thaw movement, is the major cause of damage encountered today. Horizontal and vertical structures exposed to the weather are susceptible to a gradual infiltration of moisture and frost with subsequent damage in the form of movement and deterioration of porous elements like mortar, brick and concrete. It has been observed that structures made up of large stones withstand the punishment from weather much better than structures built of smaller elements.

Stone and concrete cap details are often inadequate to prevent water intrusion and/or they were built without sufficient allowance for differential movement. The introduction of roofing and flashing materials on historic masonry is often inappropriate, impractical and in many cases impossible.

Recommendations

No repair that has been made should be regarded as permanent because the original construction was often inappropriate for the intended purpose or dimensionally less ample than would be used today. Ongoing maintenance will be necessary because unsheltered burial ground and cemetery structures will deteriorate rapidly without some form of protection from water penetration. Repairs on these sites should be considered an ongoing process, rather than "permanent" solutions, because the work involves historic components. The rate of natural deterioration can be slowed, but can not be completely stopped, as long as masonry and metals remain in their historic outdoor locations.

The overuse and over application of excessively hard mortars has been observed at most if not all of the sites. Virtually all of the original work involved the use of lime/sand mortar which predominated until about 1880. Although susceptible to washout, it was soft enough to allow bricks or stones some movement relative to each other. In a structure that lacks flexibility, stones and bricks break, mortar joints open and serious damage results. Cement mortars used after about 1880 were hard, creating strong and unyielding joints. They are appropriate to contemporary bricks and concrete blocks. Hard and soft building materials can not be used together effectively. Hard cement mortar will cause soft bricks and stones to spall and deteriorate.

Because these sites are located in a northern temperate climate, structural elements are subjected to a wide range of temperatures. This thermal stress requires regular examination and subsequent maintenance of structural elements. Inspect for cracked mortar, loose bricks, broken stones and other movement annually. Repair at least every 5 years.

Masonry Repair and Repointing

Issues

Repointing is probably the most common operation practiced in preserving and restoring old masonry structures. Improper repointing with soft mortars has been done on occasion in the past. But repointing that has been done since the introduction of hard cement mortar is more harmful. Repointing when badly done is difficult and expensive to correct. In extreme cases it causes irreparable damage to the physical structure as well as its appearance.

The clean, white appearance of lime tinted slightly by sand was a highly favored architectural effect. As a general rule, the color of the mortar used in historic structures in the United States depended on the color of the sand used in the mixture. White marble dust was sometimes added to mortar, replacing part or all of the sand, when pointing the joints between bricks and stones. Colored mortar, obtained by mixing in mineral or earth pigment like lampblack or Venetian red, was used sparingly. They are sometimes subject to fading. During the second half of the 19th century, dark mortar was popular. When colored to approximate brick, the narrow joints then fashionable contributed to create a continuity of wall surface effect.

Recommendations

Masonry repairs should be performed by experienced conservation professionals. When choosing the type of mortar to be used in repointing, full consideration must be given to matching the old mortar in color, texture, aggregate, strength and hardness [density and porosity]. The new mortar used in repointing should have the same physical characteristics as the old, only if the old mortar was reasonably appropriate in the first place. It is best to repoint with mortar having the same density and absorbency as the stones or bricks in a structure.

Masonry repairs should be performed with a mortar formulation that contains at least equal parts of cement and Type S hydrated lime for repointing. Lime mortars are both more compatible with brick masonry, and more flexible in conditions of thermal and moisture cycling. It is important that mortar used for routine pointing is compatible with the softness or hardness of a brick or stone. With long stretches of unrelieved wall, the mortar should be as soft as possible [for thermal expansion and contraction resiliency] with some hardness for durability. A type N mortar formulated just above the proportions used for type O would provide both of these characteristics. Use a color, aggregate and joint profile to harmonize visually with the adjacent work.

Perimeter walls and retaining walls need routine, periodic maintenance at least once every five years. All joints that have loose mortar should be repointed. All surfaces to be repointed should be properly prepared and cleaned, removing all loose and deteriorated mortar. Joints should be raked out by hand. The depth of chipping and raking should be at least twice the width of the joint to a maximum depth of 1-1/2". Care must be taken to avoid enlarging the width of joints. Mortar should be applied in lifts no greater than 1/2" at a time.

Masonry repairs should include repointing of all field stone walls. Where mortar that is deep inside the joints of a wall is soft, remedial work should include consideration of weep holes or other drainage devices. In addition, cavities should be packed with a material such as foam backer rods or the equivalent. Walls should be anchored to the work of adjacent materials where possible. Many walls remain standing despite incredible abuse and neglect simply because they possess some form of tie back.

*Dry laid stone wall,
Old Burying Grounds, Littleton*



Masonry repairs should be supervised by experienced professionals. Specific but broad comments relating to this topic are as follows:

- Never use premixed bagged mortar or grout. These materials are too hard. They will not accommodate movement of the masonry and in rare cases they may overstress the stone edge.
- Never point a bulged or leaning wall with hard mortar. This type of quick fix solution accelerates outward movement. Bowing is generally caused by earth pressure and/or mortar washout. Where possible and appropriate, use gravel backfill behind the wall and install weep holes.
- Masonry that has undergone excessive local movements should be rebuilt, not repointed. Do not exceed a joint width of 3/8" when rebuilding.
- Whenever possible, carry repointing below grade.
- Do not smear mortar on adjacent surfaces or on the joint being repaired.
- Where possible, tie thin elements together using stainless pins.
- Allow for large relative movements between concrete and brick. According to the Brick Institute of America, the thermal movement of concrete is more than double that of brick construction. Where possible and practical, install or cut drip edges in concrete caps to prevent moisture from entering mortar beds.

Where brick walls require rebuilding, horizontal wire joint reinforcement and vertical reinforcing bars should be included in their reconstruction. Surface brick work should be performed so as to match surrounding brick work in every respect. Bricks should match in dimension, color, surface texture and gloss, hardness and absorption rate.

On masonry and stone fence or gate posts, the insertion points of horizontal metal fence rails should be repaired with appropriate pockets to take the metal inside the masonry or stone surfaces.

A concrete cap with expansion joints at ten feet on center with sealed contact edges is an acceptable alternative, but not as durable as lead coated copper flashing. In some locations consideration could be given to lead coping joint fillers like those made by Weathercap, Inc. of Slidell LA. While these joints have a slight crown that may be visually inappropriate, they offer long term durability.

Repointing weathered materials

Issues

Weathered bricks and stones in an old wall frequently acquire worn edges and rounded profiles. When repointing them it is advisable to recess the face of the new mortar slightly to keep the joint from becoming too wide and avoid spreading mortar over the edges of the bricks and stones. When repointing bricks and rubble, feather edges should be avoided. They break off easily, carrying particles of stone with them and leaving cavities through which moisture may enter.

Recommendations

The surface of an area that has been repointed or patched should be brushed so that some aggregate is raised before the mortar becomes hard. Alternatively, stippling the joint [marking it by touching it with the end of a stiff brush] before the mortar completely sets helps to give it a worn appearance. This surface texture retains a historic appearance and does not call as much attention to itself as a smooth mortar surface.



*Mortared stone wall,
Old Burial Ground, East Bridgewater*

Sealants

Issues

A sealant is a contemporary material that has been used in historic applications to prevent the intrusion of moisture.

Recommendations

The use of sealants should be limited because they are not visually compatible with the historic appearance of stone and masonry construction. Sealants also invade adjacent materials, making them extremely difficult to remove without removing some of the adjacent material. In addition, there is some degree of difficulty in controlling joint preparation and installation. Where sealants have been used, they are typically failing. It is preferable to use sealants only at expansion joints. In other locations, such as at a moving crack, they should only be used as a last resort. Caulking and sealing materials should not be used for repointing. Silicone sealants should not be used because of their tendency to absorb soil from soot and atmospheric pollutants. A fine aggregate can be applied to the surface of a sealant during the curing period to make it more closely match adjacent surfaces. Over time however, this aggregate has a tendency to erode away.

Sealant backings must be provided of preformed, compressible, resilient, nonwaxing, nonextruding strips of plastic foam or flexible, open cell polyurethane foam or nongassing, closed cell polyethylene, of a size, shape and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

Concrete Repair

Issues

Concrete has been used in a variety of applications on these sites. In many instances repair is a preferable option to replacement.

Recommendations

Remove damaged concrete [cracked, chipped, spalled, gouged, etc.] to a 2" minimum depth and 2" minimum beyond the damage in all directions. Roughen and prepare finish surfaces to accept new concrete material. In locations where reinforcing can be repaired, clean it to bright metal and prime with a zinc rich primer. Remove reinforcing where it is exposed, corroded and can not be repaired. Replace it with vinyl ester resin bars reinforced with fiberglass equal to "Rebar" as manufactured by IMCO Reinforced Plastics, Inc., Moorestown NJ. Seal all field cut ends in accordance with the manufacturer's recommendations. Keep reinforcing back 1-1/2" from exposed faces.

In areas where concrete is to be repaired, install threaded dowels, vinyl ester resin reinforced with fiberglass equal to "Fibrebolt" as manufactured by IMCO Reinforced Plastics, Inc., Moorestown NJ, at 6" on center and 1-1/2" clear from exposed faces. Apply a bonding agent [equal to "Nitobond Epoxy Gel 400C" by Fosroc, Inc., Georgetown KY or "Sonneborn Sonoprep" by Chemrex, Inc., Shakopee MN] prior to placing concrete. Concrete should be air entrained and of the same strength as the concrete being repaired. The concrete should match the profile, finish and color of adjacent concrete.

Mound Tomb and Vault Structures

Issues

Mound tombs or vaults built into hillsides are located in a number of the sites. They typically have vertical granite walls with iron or marble doors on the entrance side and lawn above. Most of these structures are sound, but a few require dismantling and reassembling the stone facade and entrance structures. Some of the doors appear to be original, but many are missing or have deteriorated to such an extent that some form of sealing alternative has been undertaken. The existing methods are extremely varied and arbitrary. No standard exists.

Recommendations

The practice of sealing door openings with mortar and parging should cease. The use of cobblestone or concrete block infill at granite facades or brick infill at brick facades should also be discontinued. If a replica of the door is not available, a visually similar, unobtrusive, standard painted steel or cast iron plate, secured to the masonry with expansion bolts, should be used. A paint study should be performed on the existing remaining doors to determine the appropriate historic color [often green or black].

*Open mound tomb,
Brewster Cemetery, Worthington*



As a general principle, mound tombs [those with vegetation on the top and/or top and sides] should be maintained in lawn to preserve the continuity of image of a burial ground or cemetery. The requirement to mow these lawn areas has raised concerns about structural issues related to the tombs below and access for mowers when there is a desire for maintenance friendly sites. Mound tombs with very steep side slopes are very difficult to mow. The introduction of ground covers like Periwinkle would reduce structural and access concerns once established. Ground covers do however have very high maintenance requirements until they become established and the introduction of ground covers would change the appearance or image of a historic burial ground or cemetery. The successful long term use of any type of vegetation on mound tombs is almost entirely dependent upon the availability of moisture because these raised earth forms tend to dry out much more rapidly than the surrounding earth.

*Brick infill at vault entrance,
Common Burying Ground, Templeton*



Table Tombs and Box Tombs

Issues

Some families preferred the use of table tombs, presenting a visible indication of the social class of the deceased. Many of the historic brownstone and marble table tomb tops are or are very close to becoming illegible. The original slabs should be stabilized and conserved even if the inscriptions are illegible. Each table tomb should retain as much of its individual character as possible.

Recommendations

If brownstone tables or slabs on top of table tombs must be patched to prevent water penetration and freeze/thaw damage, it should be done only if it is clear that such damage would be prevented, and with a cementitious material tinted to match surrounding aged brownstone as closely as possible. The application of concrete will not slow the natural exfoliation process of this sedimentary material. Concrete should only be used for infill, never as a coating layer. Cut back only to sound stone. Undercut edges of area to be patched for better securing of the patch. Consider the use of "Acryl-60" as an added adhesive component in the patch.



*Damaged box tomb,
Old Hill Cemetery, Newburyport*

Parging has been applied to many table tomb walls with generally poor results. It appears that parging was initially employed as a "quick fix" solution to deteriorating brick joints or as a method to strengthen fragile construction. Almost all parged structures observed exhibit evidence of cracking, bulging, leaning or instability. When repairing parged surfaces:

- Remove all loose parging and repair the masonry backup before any reapplication. Allow repair work to cure thoroughly prior to reapplication.
- Do not perform patchwork parging. Complete an entire surface.
- Carry the parging at least 6" below grade to avoid the unsightly flare that is often present when parging stops at the ground surface.

Check for signs of efflorescence on an annual basis and photograph with a scale in place so that changes can be seen and documented.



*Brownstone table tomb,
East Parish Burial Ground, Newton*

Edging of Family Plots

Issues

During the Victorian era, affluent families enclosed their plots with a formal, enduring perimeter of granite or marble. The continuous stone edging typically raised the level of the plot above the surrounding surface and steps were frequently part of the plan. The less wealthy often used metal fence or chain enclosures. Most of the latter are missing today with remnants of low, square granite posts at the corners and/or granite fence post bases.

*Family plot edging,
Mount Hope Cemetery, Boston*



Some of the stone plot edging is in good condition, but much has suffered from settlement and/or overturning and has heaved or rotated out of position. Stone corners are sometimes nominally pinned together with iron cramps.

Recommendations

Displaced edge stones should be reset and the ground raised adjacent to them to cover the foundations and bottoms of the edging. Existing corner pins are generally ineffective and should be replaced with concealed stainless steel angles and adhesive anchors. Alternatively, the concealed stone foundations could be replaced with a continuous concrete pad and the edge stones could be set on top of the concrete on mortar beds, with vertical stainless steel pins connecting the two materials.

Settlement and overturning at family plot edging, Old Burying Grounds, Littleton



BUILDINGS

Issues

Some of the sites once had buildings located within them that served a variety of functions, from morgues to hearse houses to maintenance structures. Some remain and others have been relocated or removed. They are or were constructed of an assortment of materials.

Recommendations

Prior to determining an approach to the restoration of an existing building, a determination should be made during the planning phase whether it is historically significant. In regard to former buildings, many should not be replaced [replicated or returned to a site] unless there is an overwhelming desire for this to occur and a commitment to maintain such a structure. They could potentially become targets for vandalism, particularly in sites with little visitation.

Buildings, Mount Hope Cemetery, Boston



FENCES AND GATES

Perimeter Fences and Gates

Issues

The primary function of a fence is to keep unauthorized people and animals from entering a premises. Little is specifically known about the edge treatment of these sites prior to the use of cast iron fence. Most graveyards were open with an occasional site enclosed with a stone wall. Once walled, a graveyard was generally not otherwise maintained. As the 19th century approached with increased urbanization, the number of fenced or walled graveyards increased.

1867 entrance gateway, Mount Hope Cemetery, Boston



Pedestrian and vehicular entrance gateway, Chocksett Cemetery, Sterling



In the earliest burial grounds, iron was used only in conjunction with wood for gates and fences. During the 18th century iron became the chief material for "boundary fencing around houses, public buildings and grounds," because of its strength and durability. It is possible that cast iron fencing was used in the burying grounds because of the popularity of decorative cast iron, which was both sturdy and relatively transparent. The latter qualities may also have seemed important as a deterrent to the grave robbing incidents of the 1820s. The fencing of Boston's burial grounds with cast iron proceeded from 1839 through the 1850s which is the approximate time frame when the early rural cemeteries were established.

Rural cemeteries of any substance created imposing main entrance gateways emphasizing passage from the hustle and bustle of every day life to a special, quiet, sacred encounter with the place inside. Gateways were initially made of wood and later stone when finances allowed.

Recommendations

Perimeter fences and gates should be maintained where appropriate.

Iron Fences and Gates

Issues

Three ferrous products [wrought iron, cast iron and steel] were popular in North America at various times. Wrought iron was used for most purposes until about 1790. For the majority of the 19th century cast iron became the principal material for gates and railings because it could be mass produced and was relatively inexpensive. The ornamental cast iron industry began to flourish in the 1840s. Cast iron was also used in building construction in the late 1800s and early 1900s.

Wrought iron became fashionable again about 1880. By the turn of century and with the Art Nouveau style both wrought and cast iron were used, and in some cases combined. After 1866 Americans also began to make large amounts of mild steel, a low carbon alloy used unhardened as a substitute for wrought iron, even though wrought iron resists rusting better than mild steel.

Wrought iron is a strong and malleable low carbon form of iron alloy with good tensile strength. It is almost pure metal with slag particles and can be shaped into complex and intricate forms because of its high elasticity. Formed by hammering heated metal, it becomes stronger the more it is worked. However, it ordinarily contains so little carbon that if heated and quenched like steel, it would not harden. Machine parts made of wrought iron would wear rapidly in use because of this softness. Working wrought iron is a laborious and costly process.

Cast iron contains a comparatively large amount of carbon [2-4%] as well as silicon. Melting at a lower temperature than wrought iron, it can be cast into intricate shapes, although not as crisp and graceful as wrought iron because of the molding process. Cast iron is very hard with excellent compressive strength, but poor elasticity. It is brittle and shatters if heated and suddenly cooled with water.

Some sites appear to have original decorative cast or wrought iron fencing and/or gates. The remaining iron or steel fencing tends to be more contemporary with angles, channels, H beams and/or tubular components. The condition of the fences and gates is generally good with most of the work required being in the nature of minor repair, related to straightening bent components, replacing missing parts and painting. Most of the paint finishes are in poor condition, needing repainting within 5 years.

Recommendations

In areas of high visitation, efforts should be made to restore historic ironwork, that is, to replace inappropriate current fences and gates with more historically appropriate fences and gates.

*Iron fence on stone masonry wall,
Glenwood Cemetery, Everett*



Interior Fences and Gates

Issues

A number of properties have cast or wrought iron fences and remnants of other elements often associated with family plots. These enclosures had many advantages. They were adaptable to a variety of topographic conditions and it was possible to express imagery [religious and symbolic iconography] in the molded iron to an extent that was not previously possible. Even though cast iron was relatively inexpensive, it gave an impression of great luxury.

*Cast iron fence with rustic motif,
Walnut Street Cemetery, Brookline*



58 - General Recommendations

Although popular early in the rural cemetery movement, these elements fell into disfavor by 1867 and were being removed from sites. Extensive plot fencing came to be viewed as detracting from the overall beauty of the landscape. The boundaries of numerous adjacent plots were marked with competing fences, with complete disregard for the visual impact on the cemetery as a whole.

Cast iron was not supposed to deteriorate if it was regularly painted. However, this routine maintenance did not always occur. Rust and overgrown vegetation hastened the deterioration of a lot of iron fencing. Many of the remaining iron fences were removed for scrap iron to support 20th century war efforts, leaving few examples of this most typically Victorian of embellishments.

Recommendations

As a general rule the remaining fences should be restored as they provide excellent examples of this form of cemetery art. Granite posts around a number of family plots indicate that there was some iron fencing at one time. These should only be restored based upon historic photographs or other reliable information or illustrations.

Metals Restoration

Issues

In welding older metals, the welding technique must be matched correctly to the type of metal. This may involve preheating the metal, using hotter or cooler than normal welding heat, faster or slower rates of welding speed, or lower than normal strength electrode rods. Although wrought iron can be easily welded, cast iron can not be welded with modern techniques due to its propensity to melt at relatively low temperatures. However, cast iron can be joined with brazing like methods.

In the 1987 APT [Association for Preservation Technology] Bulletin No. 3, J. Scott Howell states in his article *Architectural Cast Iron, Design and Restoration* that although cast iron is extremely difficult to weld, a strong bond can be obtained using a high quality nickel rod in accordance with the procedures recommended by the American Welding Society.

The process becomes even more difficult when effecting repairs on original material. In many cases, welding can worsen the situation. Attempts to repair original iron with weldments should only be attempted by experienced craftsmen and should never be considered for structural cracks. Using the correct welding process is so important that a testing agency should be called upon for every case of planned welding to determine the nature of the metal and to recommend the correct procedure.

Recommendations

Cast iron components should be recast when there is evidence of structural cracking or severe deterioration around attachment points. Missing components should also be recast. Castings should be made of Class 30 Gray Cast Iron conforming to ASTM A48. Master patterns for new castings should be made of White Pine or Mahogany, and working patterns made of aluminum or urethane. The original Victorian castings were assembled with low carbon wrought fasteners which were subject to premature deterioration. Noncorrosive stainless steel fasteners should be used today for cast and cast/wrought assemblies.

Where long fences are tied together with continuously welded connections, enormous forces can be generated as the metal expands and contracts from temperature changes. When a fence gets cold, it contracts and stresses welded connections. This results in a broken weld, bent support post and/or broken cap or foundation at the base of the support post. When a fence gets warm, it expands with similar results and/or buckled rails.

In the design, fabrication and installation of fencing and gates, allowances should be made for the thermal movement that results from changes in ambient temperature to prevent buckling, opening up of joints, overstressing of components or connections and other detrimental effects. Slip joints should be provided between embedded elements and connecting rails for lateral movement. Slip joints should consist of slotted holes and Teflon washers.

*Rust jacking at former fence post support,
East Parish Burial Ground, Newton [left]
Chocksett Cemetery, Sterling [right]*

Where metal fence posts are inserted into masonry or concrete, there should be no pockets to collect moisture. The preferred joint material in these locations is molten lead or a lime-sand mortar. Sealant will shrink and embrittle over time. The use of joint sealants within metal fabrications is appropriate to prevent moisture from collecting in metal to metal joints. Sealants for this use should be a premium grade polyurethane based elastomeric sealant conforming to ASTM C920, Type S, Grade NS, Class 25 equal to Sikaflex-1a as manufactured by the Sika Corporation, Lyndhurst NJ of a color to match the paint finish.

Galvanic action and other forms of corrosion should be prevented by insulating metals and other materials from direct contact with incompatible materials. Although the corrosion or oxidation of aluminum is far less destructive to stone than iron's "rust jacking," it is nevertheless unsightly. Aluminum replacement parts should not be used in cast iron or steel fences.



Rust

Iron reacts with oxygen in the air to revert to iron oxide. While the reaction is slow in the absence of water, it is more rapid when water vapor is present and a layer of hydrated iron oxide [rust] forms on the surface. Rust is permeable to air and water. Once rusting starts, it continues unless measures are taken to remove the corrosion present on the iron and a coating of paint is provided to prevent corrosion. Once a surface has developed rust, it becomes sensitized to further corrosion.



Bronze Plaque Restoration

There are a number of bronze informational plaques in these sites. The verdigris patina that develops on bronze should be removed to prevent further corrosion. Restoration should include cleaning and protective coating. Loose dirt, debris and other water soluble corrosion should be removed with a low pressure water spray [1,000 psi or less] and/or soft nylon or natural hair brush with water.

On some surfaces and finishes, other corrosion may be removed by an abrasive method using "Scotch-Brite" pads and water. This is not recommended for polished finishes.

Protective coating should include a two part system with a first coat of "Incralac" and a second coat of micro-crystalline wax like Renaissance Wax or approved equal. Butcher's Wax and Bowling Alley Wax are acceptable alternatives. The first coat should be brush applied in strict accordance with the manufacturer's recommendations, covering all bronze, particularly into and around all raised components. After the first coat has cured, apply three coats of wax with a soft rag and buff each coat.

All metals that are rusting or have failing paint finishes should be cleaned down to bright metal and properly primed and coated to prevent further corrosion. Older paint finishes should be laboratory tested for lead content prior to removal. The preferred method of cleaning and paint removal from historic cast iron is using low pressure dry grit blasting on site. It is the most effective, being fast, thorough and economical. The pressure should be less than 100 pounds per square inch using a fine aggregate of iron slag or sand, but not copper slag. The aggregate should not be very sharp or very hard. It is preferable not to use wet sandblasting or flame cleaning. Hand scraping, chipping and wire brushing is not as effective as other methods. Chemical rust and paint removal methods should generally be employed in the shop as opposed to in the field. When employing pressure blasting, comply with local building codes and environmental authorities, and take every precaution to protect adjacent materials, including plant materials.

Bare surfaces should be painted within 48 hours of proper cleaning. The preferred paint system for cast iron includes a two part epoxy primer and an aliphatic or acrylic polyurethane finish coat. An acceptable, but less durable, less expensive alternate for non corrosive environments includes an application of a passivating material, such as a high zinc dust content [90% zinc content minimum] primer, then a red oxide alkyd metal primer and alkyd enamel finish. Concealed surfaces should be thoroughly prime coated prior to concealment. While a semigloss black finish is often recommended for ease of maintenance, a paint seriation analysis should be performed on existing remaining metal components to determine historic paint colors and other characteristics. Shades of green, brown or black may be appropriate historic colors.

If spray operations are used, extreme caution should be exercised to prevent overspray from coming into contact with persons, motor vehicles, trees, surrounding buildings and other objects [particularly historic artifacts like gravestones] not intended for treatment.

Paint as often as required to maintain good condition and appearance, but not less than once each ten years. When coatings fail, fences corrode. Paint coatings should be monitored annually for peeling and failure.

Post and Chain Fencing

Issues

This type of low control fencing is primarily used to discourage people from walking on grass in intensely used areas. It is currently used at Granary Burying Ground in Boston. Post and chain fencing should be used only where necessary. There are some safety concerns and it can be a visual distraction.

Recommendations

As a general recommendation, post and chain fencing should be removed from a site once an appropriate path system is in place. As long as posts and chains remain on some sites, reset posts in an upright position as required. Straighten or replace bent or crooked posts. Repair chain and related appurtenances as required. Locations should be carefully considered to prevent chains from rubbing against gravestones. Remove chains that rub stones.

Chain Link Fences

Issues

Typically used in less visible areas, wire and chain link fencing was an inexpensive alternative to the more substantial iron fences. Funds were used for wire fencing in 1880 at Boston's Mount Hope Cemetery. In general, most of the chain link fences examined were in good condition, but needed varying degrees of maintenance.

*Chain link fence,
Western Cemetery, Portland*



Recommendations

Missing and bent components should be replaced and/or repaired. Rusted sections should be prepared and painted. Structurally deficient rusted support posts should be replaced. Rust stains on masonry and concrete copings are primarily an aesthetic problem, as iron oxide deposits do not support botanic growth or harm masonry. However, rusting metal expands, and rusted support posts will crack masonry and concrete copings. This allows moisture penetration inside the coping and eventually the wall below where freeze/thaw cycles can cause significant damage.

Support posts should be inspected at least once a year for stability to insure structural support. Replace those that are weak or structurally unsound. Repair damaged fabric as soon as possible. For the long term, consideration should be given to replacing the chain link fence at some sites with a more historically appropriate fence. This is particularly important in areas of high visibility and/or visitation.

Wood Fencing

Issues

Wood, as well as stone, was used for enclosing the perimeters of a number of the early burial grounds. It is assumed that the earliest were a post and rail type, primarily to control livestock. Picket type fences with a more decorative character probably followed.

Recommendations

Where wood fencing is determined to have existed and where it has not been replaced with another more durable material, consideration should be given to replacing or replicating it based upon historic information. Such is the case in Tisbury and Worthington. Where wood has been replaced with a more durable material, serious consideration needs to be given to whether it is appropriate to return to wood.

Wood fence, Village Cemetery, Tisbury



SITE AMENITIES

Signs

Issues

There are four categories of signs appropriate to historic burial grounds and cemeteries: identification, regulation, orientation and interpretation. Many sites need identification signs as a first priority. Few sites have signs for regulation, orientation, interpretation or information. Regulatory signs that exist tend to focus on preventing parking at entrances. Rules for use are rarely posted. Informational signs tend to be bronze commemorative plaques.

*Identification sign,
Evergreen Cemetery, Boston*



Most of these sites need signs at the entrance that identify the property and list rules and regulations. At a minimum, these signs should provide some basic information, dates and historic designation. Placement of an orientation and informational or interpretive sign at or near the entrance of each site is also recommended. The placement of signs inside the grounds should be coordinated with path systems so that visitors naturally remain on path surfaces and are not attracted to walk on lawn surfaces. Interpretation is extremely important and a supporting sign system is critical.

*Victorian path sign,
Boston*



Recommendations

Signs should be legible and visually compatible with the character of the grounds and an overall system to present a sense of uniformity and wholeness. The system should be designed to reflect the museum quality of the grounds. The issue of donor and/or organization markers or plaques is discussed under the topic of administrative management.

Special consideration should be given to restoring Victorian street or path sign systems where appropriate. Decisions related to sign materials should be made with consideration to the overall setting. Many materials, colors and styles can be visually distracting in terms of viewing a historic property. Signs set in granite bases might give the appearance of gravestone markers, potentially confusing visitors. Concrete bases are often an inappropriate material.

*Sign mounted on a tree,
Glenwood Cemetery, Everett*



Trash Receptacles

Issues

Few of these sites have trash receptacles. Those that do, which tend to be the active sites, typically use painted 55 gallon metal drums.

Recommendations

In general, sites that are typically not open should not have trash receptacles located within them. As a site becomes more open to the public, trash receptacles could be added, but they should be emptied on a regular basis. Trash receptacles should always be located outside, as opposed to inside, the cemetery if at all possible, particularly for small sites. The visual character of trash receptacles should be compatible with adjacent fencing where it exists. Steel slat type receptacles are generally the most compatible with metal picket fencing.

Inspect at least 3 times a year including all connections. Repairs should be made immediately upon discovery of need or notification. Paint metal components once a year.

*Stone bench marker,
Greenlawn Cemetery, Nahant*



Seating

Issues

Few of the sites offer seating. Benches were not typically provided in burial grounds prior to the rural cemetery movement that began in 1831.

Recommendations

Some authorities prefer providing conveniences for visitors like seating and trash receptacles as an alternative to littering and sitting on stones. As a general rule, however, benches should not be added except as appropriate in areas established after 1831.

*Cast iron Victorian planter,
Mount Feake Cemetery, Waltham*



Planters

Issues

Most free standing planters tend to be associated with family plots. There are a few outside entrance gates or near administrative offices or visitor facilities. Seasonal flowers can brighten and enhance an entrance, provided they are maintained.

Recommendations

The owners of built in or substantial planters at family plots should be encouraged to maintain them. Planters in other locations should be removed seasonally when there are no flowers in them, and permanently if maintenance ceases. Planters should not be added to historic burial grounds and cemeteries.

*Victorian planter,
Oakwood Cemetery, Syracuse*



Flagpoles

Issues

Several of the sites have flagpoles. While some are simply flagpoles, a few serve as individual memorials and others have military associations.

Recommendations

As a general rule, flagpoles should not be added except where there is a strong military association and presence because of the maintenance and management issues associated with them. Flagpoles should remain only as long as the responsible constituency continues to maintain the flag, raise it and take it down. Flagpoles should not be illuminated.

*Cannon at a military plot,
Mount Hope Cemetery, Boston*



Cannons

Issues

At least 2 sites, Danvers and Everett, have field pieces or cannons placed in them because of the military associations of specific areas in each site.

Recommendations

Cannons require maintenance which should be provided by the groups associated with each piece.

*Marker bases used as drain edging,
Cambridge Cemetery, Cambridge*



UTILITIES

General

Issues

Most older burial grounds had no need for utility services. As the rural cemetery movement became established, water supply was deemed desirable to help maintain the overall landscape and allow visitor maintenance of plantings at individual and family plots. Electricity was only needed to service building needs and was not used for general illumination of a site.

Recommendations

In urban areas it is generally preferred that utility services such as electricity for lighting and water supply for irrigation be provided from adjacent public, institutional and/or commercial buildings. This would create the least disruption of the burying grounds or cemeteries and the least potential visual intrusion. Other means of providing utility services is less desirable and perhaps less feasible in strictly residential settings. Sites that formerly had buildings like tool sheds sited on them should be investigated to determine if utility services were provided to those buildings and if they are potentially serviceable.

Drainage

Issues

Storm drainage systems were found in few of the sites. Storm water discharges into the sites from adjacent properties from rain leaders or other sources were found at a number of the properties causing erosion and sedimentation conditions.

Recommendations

Existing storm drainage systems should be maintained. New systems should generally not be added to inactive sites unless deemed absolutely necessary. Storm water discharges into the sites from adjacent properties should be rectified as soon as possible to prevent further erosion and sedimentation damage.

Inspect storm structures 4 times a year and remove sediments from catch basins in early spring or more often as required. Clean storm piping at least every five years or more often as required. Remove all mud, leaves and other debris. Repair fractures in masonry drainage structures as often as required. Improve site drainage to alleviate surface and ground water problems.

Water Supply

Issues

While water is generally available at the active sites, it appears to be scarce in many of the others and is a significant reason why lawns are in fair to poor condition during the dry summer months.

Recommendations

Although desirable, the installation of an irrigation system could be very damaging to grave sites and gravestones, and would be costly. Frost proof hose bibs should be added where feasible at adjacent public, institutional and/or commercial buildings. This is particularly important in sites where public visitation is significant.

Inspect all working parts and plumbing for leaks or faulty operation at least annually and repair at once. Drain each fall to prevent damage from frost and turn on each spring.

Lighting

Issues

No existing lighting was found inside any of the sites other than security lights at buildings. Existing adjacent street lighting provides some ambient illumination for some sites.

Recommendations

In most cases there is no need to provide lighting in properties of this type. A high incidence of vandalism may cause consideration of providing illumination throughout a site, or in certain areas. The lighting of sites from adjacent streets should be maintained and/or upgraded where deemed necessary for security reasons. The addition of security lighting in other areas should be mounted on adjacent buildings wherever possible. If this is not possible or practical, security lighting should be pole mounted at the edges of properties where it would create the least visual intrusion. Decorative or "period" pedestrian or holiday lighting should not be added to any of the sites.

Repair damaged metal surfaces as damage occurs. Spot check and repair all surfaces every 5 years. Replace bulbs as needed, averaging every 2 years. Replace ballasts every 10 years.

A CONCLUDING CAUTIONARY NOTE

Issues

Subtle archaeological features in burial grounds and cemeteries should be identified and recorded before important scientific data is lost or destroyed by natural or cultural processes. For example, soil erosion poses a serious threat to sites where the sloping ground surface exposes markers, monument foundations, funereal decorations or grave shafts. Erosion and associated surface runoff can also gradually degrade the ground surface around markers and above grave shafts located on natural knolls and hilltops. Landscape modification can threaten burials placed close to cemetery margins, even when those margins are known and enclosed behind retaining walls. Impacts from leveling the ground surface or rigorous landscape maintenance can impact shallow burials or displace artifacts placed on coffins. Intensive landscape improvements, like leveling, reseeding and planting, can disturb evidence of surface treatment of graves and scientific information "such as color, texture, friability, moisture, and organic enrichment" evident from the soil matrix.



*Water supply,
Pere Lachaise Cemetery, Paris*

Well intentioned, but inappropriate, restoration also poses a threat to scientific information from graveyards. Incorrect measures include covering pathways and traffic patterns, correcting unsightly, but historical alterations, and subsurface excavation to search for buried markers and bases. The latter activity disturbs scientific data on former landscaping efforts and may remove near surface artifacts and evidence of coffin treatment. Grinding or removing tree stumps and excavating root systems can dislodge coffins or coffin hardware and may intrude upon shallow burials. Equipment and vehicles brought on site to remove trees or tree limbs can damage near surface features and objects. Impacts from chemicals used to kill shrubs and tree roots will alter the mineral composition of the soil, may interfere with chemical analysis of skeletal remains and can damage or destroy coffins, coffin hardware and memorials.

Inappropriate beautification procedures include remounting markers in neat, orderly rows, when the originals were slightly askew or placed in asymmetrical family groups. No graveyard should be "restored" to a condition that is incompatible with its own historic reality. Early colonial burial grounds, for example, were often ill kept and used for pastures. They never achieved the bucolic character of 19th century rural cemeteries.

Occasionally broken markers or marker fragments have been removed from their original location and thrown outside the cemetery bounds, placed at the base of cemetery walls or even used to repair the original stone walls. Finally, unmarked burials, including those located in pauper's lots and along a cemetery perimeter, may be threatened by development on what might be assumed to be open space.

Recommendations

Appropriate Stabilization and Protection Measures: The ground surface of a historic burial ground or cemetery should never be excavated but can be made smoother with the addition of loam and seed. Trees should be hand trimmed whenever possible. If heavy equipment is necessary, it should be operated in a location outside the cemetery where possible. Tree roots should not be removed and stumps should not be ground below the surface. Trees and shrubs should be cut flush with the ground surface. Materials brought on site for repair [cement, mortar, gravel or peastones] should not be stockpiled on the ground surface, but placed on tarps and carefully removed when preservation efforts have been completed. In this way repair materials will not obscure the archaeological record of landscape treatment or cause damage to the root systems of trees and shrubs. If possible, stone wall repairs should be made from outside the cemetery. Markers should be remounted in their original position rather than in neat, orderly rows, unless there is strong evidence to indicate that the original cemetery was set out in this way.

Watch out for uncarved fieldstone markers. Do not remove them during landscape treatment and ground clearance. Careful gentle probing can provide information about the potential presence of markers just beneath the surface.

Excavating the ground surface to search for toppled burial markers should be avoided. The impulse to remount original markers should be moderated by an awareness that digging into the ground surface can destroy information on decorative ground treatment [planting, stone surface treatments, borders] as well as objects placed outside the coffin [military insignia, photographs, statues, rosaries, crosses, etc.]. Excavation, including stabilization, repair and/or protection, within historic burial grounds and cemeteries should be conducted only by, or under the supervision of, professional archaeologists under permit from the State Archaeologist as required by state law.

While the procedures outlined in these guidelines are accepted practices in the field of conservation, neither the Department of Environmental Management nor the authors nor reviewers assume any responsibility for the preservation, conservation or restoration work of readers of this publication.



ADMINISTRATIVE MANAGEMENT POLICY ISSUES AND RECOMMENDATIONS

ADMINISTRATIVE MANAGEMENT **Laws, Rules and Regulations**

Each community is the governing authority responsible for the care and maintenance of these municipally owned historic burial grounds and cemeteries. However, a series of Federal and State laws also protect burial grounds and cemeteries. Principal among them are the Native American Graves Protection and Repatriation Act [PL101-601] and the Massachusetts Unmarked Burial Law [Chapter 659 of the Acts of 1983 and Chapter 386 of the Acts of 1989].

In Massachusetts, other supporting laws protecting burial grounds and markers include:

- Cessation of Activities at Unmarked Burial Grounds, Reports to State Archaeologist [Ch 9, Section 27C]
- Discovery of Unmarked Human Skeletal Remains [Ch 38, Section 6B]
- Preservation of Ancient Burial Places [Ch 114, Section 17]
- Care of Neglected Burial Places [Ch 114, Section 18]
- Violation of Sepulchre [Ch 272, Section 71]
- Injuring or Removing Tombs, Graves, Memorials, etc. [Ch 272, Section 73]
- Removal of Gravestones for Repair [Ch 272, Section 73A]

Gravestone Repair and Reproduction [Ch 448, Section 950 CMR 41]

The latter requires that a permit be issued by the Massachusetts Historical Commission to restore and/or repair a gravestone. Copies of the relevant laws and regulations can be obtained from the Massachusetts Historical Commission, 220 Morrissey Boulevard, Boston, MA 02125.

Archaeological excavations on public lands or involving state or federal licenses, funds, or permits must be conducted under permit from the State Archaeologist at the Massachusetts Historical Commission. Archaeological excavations of burials can be conducted only under exceptional circumstances, and after a special permit has been obtained from the State Archaeologist.

If a site becomes listed on the National Register of Historic Places, preservation restrictions may be imposed by the Massachusetts Historical Commission if state or federal funds are used. Local rules and regulations pertaining to use of a historic burial ground or cemetery should be reviewed and reaffirmed.

Controlling activities on sites like these is generally beneficial. Curtailing them can sometimes have negative results. Once rules pertaining to the use of a site are adopted, they should be clearly stated on a sign at the gate. They should include:

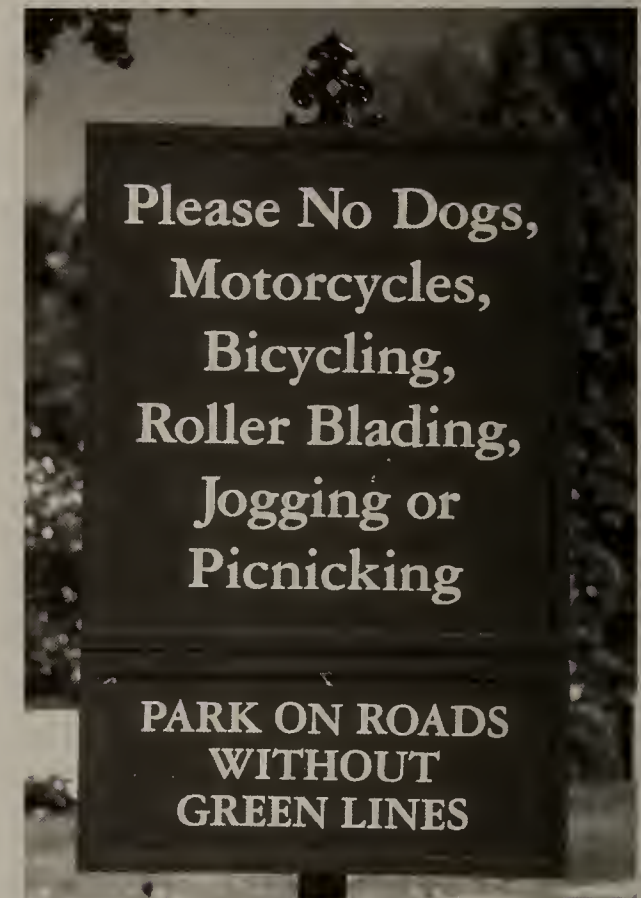
No Gravestone Rubbing
Do Not Sit or Lean on Tombs or Gravestones
No Alcoholic Beverages
No Dogs Allowed

Other considerations should include the prohibition of bicycles, roller skates, roller blades and skateboards as well as picnics [the consumption of food or beverages], jogging and athletic games. Visitors should be reminded to conduct themselves in a manner in keeping with the dignity and sacredness of a burial ground or cemetery. Loud or unseemly conduct or music should be prohibited. Visitors should not litter the grounds, or cut, break or injure trees, shrubs or other plants.

*Rules and Regulations Sign
Evergreen Cemetery, Boston*

*Rules and Regulations Sign
Cambridge*

In regard to tributes, cut flowers should be allowed at any time provided they are laid on the ground and not wired or tied to grave markers. Potted plants and artificial plants or flowers should not be allowed. The planting of perennials or shrubs should also not be allowed. Statues, lights, glass objects or other impediments should also not be permitted. Flags on individual graves should be permitted only for 24 hours before and after Memorial Day, Patriot's Day, Evacuation Day and Veteran's Day.



Access and Control

This can be a complex issue because while there are numerous advantages to encouraging the public to spend time at a historic burial ground or cemetery, there are also benefits to keeping people out of these sites. The reduction of potential theft and vandalism are the primary reasons for keeping these sites locked on a regular basis. Unintentional damage by indigents and animals, dogs primarily, is also a concern. These potential problems have not surfaced to a significant degree in the sites examined as part of this program. It is however an important consideration for many sites in the Commonwealth.

In any case, most sites should have some form of visible boundary definition, such as a wall, fence or hedge, to discourage unintentional damage by unknowing or well meaning abutters. The type and form of this definition should be determined by the historic nature of the property and the financial ability of the community in which it is located.

Most of the sites in this program allow free public access at all hours. If there are no significant problems, sites should not be changed in this regard. Should problems arise, serious consideration should be given to discussing the matter with the local law enforcement entity, providing perimeter fencing and incorporating policies adopted by other municipalities that generally have more of an urban setting. Those sites are typically locked and opened only on request. This policy is maintained until public demand for access to a site becomes significant. At that point a site is opened on a daily basis at specific times by specific persons and the hours are clearly posted. Under these conditions, the development of local partners would assist in making sites more accessible to the public.

FRIENDS GROUPS AND CITIZEN PARTICIPATION

Partnerships formed between municipalities and local constituency groups such as neighborhood associations, historical societies and friends groups can be beneficial for historic burial grounds and cemeteries. These relationships are essential for site management and successful fund raising. Local constituency groups are effectively the eyes and ears for these resources, providing oversight and watchdog functions. Local constituency groups also provide support for grant writing activities. Incorporation as nonprofit entities enables them to receive funds from charitable foundations, corporations and individuals.

Constituency group and volunteer efforts could be directed toward developing strategies and efforts to preserve and improve these sites including inventories, stone fragment collection, cleanups, plantings, watering of newly planted trees, public education, interpretation, special events, the development of visitor brochures and guided walks to increase public awareness of these important sites.

Education can play an important role in building community support. Cemeteries and burial grounds can be used as an outdoor laboratory for local schools, giving classes in history, art, sociology, religion, geology, botany or metalurgy.

The preparation of preservation master plans or guidelines can help closed or abandoned historic burial grounds and cemeteries become community assets once again. They can provide guidance on how to present historic burial grounds and cemeteries as community assets and/or appropriate tourist destinations. Without such guidance even the most devoted cemetery advocates find it difficult to sustain support. With the assistance of local constituency groups this can be created by enlightening people as to the historic value or significance of such a property to a community. As a potential tourism component for the Commonwealth, historic burial grounds and cemeteries must be presented in a compelling and appropriate manner. Many sites could be more highly utilized if they were associated with publicized trails or neighborhood walks. Increased public exposure will lead to greater use of these valuable open space resources.

FUNDING

Most municipally owned historic sites have no endowment funds, unlike many of the well maintained private cemeteries. Care and restoration of these sites is funded primarily by matching grants and the efforts of the local Departments of Public Works or Parks and Recreation. A descendant's research project could become a means to encourage community members to make contributions. Funding for tree planting also needs to be pursued in many cases. State programs like Mass Releaf or the Shade Tree program provide funds for tree inventory and planting.

Recognition of Contributions

As funds are raised for improvements, donor recognition becomes an issue of concern. Plaques, if necessary, should be grouped in a location near the main entrance of a burial ground or cemetery so as not to detract from the primary experience of a site. If this is not acceptable, plaques for donated or memorial trees should be hung on trees as opposed to being ground mounted on concrete bases. A minimum gift level should be set to at least cover the cost of purchasing and installing the tree, memorial plaque and long term maintenance for the tree. It is preferred that donations be made to a Memorial Tree Fund that can be used as an endowment for tree planting, maintenance and eventual replacement.

WORKING WITH VOLUNTEERS

Volunteer involvement is an integral part of the success of most burial site preservation projects. They provide the enthusiasm, energy and driving force behind most projects. Much responsibility falls to those faithful volunteers who see a project through from beginning to end.

Because of the nature of volunteer staff, a coordinator, preferably a paid position, is essential. The coordinator takes charge of all the varied talents and time schedules of volunteers, sets timetables for goal accomplishment, assigns tasks and follows up to insure that they are completed. This person keeps others informed and on track, and insures that each participant understands the project and his or her part in it.

With only limited training, volunteers can be the backbone of the work force for documenting and photographing many sites.

Following more in depth training, volunteers can undertake elementary conservation efforts such as washing or resetting certain types of markers. Each volunteer must receive the necessary training for the particular task assigned. Untrained or unskilled individuals should not attempt even the most elementary conservation work.

RESOURCES

Potential sources of assistance with burial ground and cemetery related issues:

Informational Resources

Association for Gravestone Studies [AGS]
278 Main Street, Suite 207, Greenfield MA 01301
[413] 772-0836
[gravestonestudies.org]

American Institute for Conservation of Historic and Artistic Works [AIC]
1717 K Street, NW, Suite 301, Washington DC 20006
[202] 452-9545
[aic-faic.org]

Association for Preservation Technology International [APT]
P.O. Box 8178, Fredericksburg VA 22404
[703] 373-1621
[apti.org]

National Museum of Funeral History
415 Barren Springs Drive, Houston TX 77090
[281] 876-3063
[nmfh.org]

National Park Service
Monument Research and Preservation Program
200 Chestnut Street, 3rd fl., Philadelphia PA 19106
[215] 597-5824

National Park Service
Preservation Assistance Division
Technical Preservation Services Branch
P.O. Box 37127, Washington DC 20013
[202] 343-9578

National Trust for Historic Preservation
1785 Massachusetts Avenue, NW, Washington
DC 20036
[202] 673-4296
Northeast Office
7 Fanueil Hall Marketplace, 5th fl., Boston MA
02109
[617] 523-0885
[nthp.org]

Save Outdoor Sculpture
Heritage Preservation
1730 K Street, NW, Suite 566, Washington DC
20006
[888] 767-7285
[heritagepreservation.org/PROGRAMS/SOS/
aboutsos]

Partners for Sacred Places
1700 Sansom Street, Philadelphia PA 19103
[215] 567-3234

Alliance for Historic Landscape Preservation
co Sherda Williams, Membership Coordinator
2740 Redick Ave., Omaha NE 68102
[ahlp.org]

American Society of Landscape Architects
636 Eye Street, NW, Washington DC 20001
[202] 898-2444
[asla.org]

Massachusetts Department of Environmental
Management
251 Causeway Street, Suite 600-700, Boston MA
02114-2104
[617] 626-1250
[state.ma.us/dem]

Massachusetts Historical Commission [State
Historic Preservation Office]
220 Morrissey Blvd., Boston MA 02125
[617] 727-8470
[state.ma.us/sec/mhc]

National Center for Preservation Technology and
Training
Northwestern State University of Louisiana
645 College Ave., Natchitoches LA 71457
[318] 357-6464
[ncptt.nps.gov]

General Information Websites

alsirat.com/silence
members.aol.com/TombView/links
potifos.com/cemeteries

State and Local Organizations

African American Cemeteries Online [Texas]
[prairiebluff.com/aacemetery/tx]
Benton County Cemetery Preservation Group
[Arkansas]
Center for Historic Cemeteries Preservation
[Florida]
Coalition to Protect Maryland Burial Sites
Connecticut Gravestone Network
Florida State Task Force on Abandoned and
Neglected Cemeteries
Grave Concern, Inc. [Lancaster County PA]
Maine Old Cemetery Association [Augusta]
Oregon Historic Cemeteries Association, Inc.
Save Our Cemeteries, Inc. [Louisiana]
[soc@saveourcemeteries.org]
Save Southern Cemeteries [angelfire.com]
Save Texas Cemeteries, Inc. [rootsweb.com]
State Association for the Preservation of Iowa
Cemeteries
Vermont Old Cemetery Association
Washington State Cemetery Association
[rootsweb.com]

Education Programs

The GraveNet Project [EduTel Communications,
Inc.] gives K-12 students an opportunity to
investigate community history, geology, etc.,
through cemeteries by providing lesson plans
and other resources. [edutel.org/gravenet]

Grant Assistance

Foundation Center
79 Fifth Avenue, New York NY 10003
[212] 620-4230

Grantsmanship Center

1125 W. Sixth Street, 5th Floor, Los Angeles CA
90015
[213] 482-9860

**Foundation Grants Index, New York Foundation
Center**

[see Foundation Center above]

Potential Funding Sources

Historic Landscape Preservation Grant Program,
Heritage Tree Care Grant Program, and MASS
Releaf Grant Program

Massachusetts Department of Environmental
Management

251 Causeway Street, Suite 600-700, Boston MA
02114-2104
[617] 626-1250
[state.ma.us/dem/grants]

Massachusetts Preservation Projects Fund
Massachusetts Historical Commission
220 Morrissey Blvd., Boston MA 02125
[617] 727-8470
[state.ma.us/sec/mhc/mhcmppf/mppfidx]

Grant Program

Massachusetts Cultural Council
120 Boylston Street, 2nd fl., Boston MA 02116
[617] 727-0044
[massculturalcouncil.org/grant/index]

Getty Grant Program

401 Wilshire Blvd., Suite 1000, Santa Monica CA
90401
[310] 395-8624

Institute of Museum Services [IMS]

1100 Pennsylvania Avenue, NW, Washington DC
20506
[202] 786-0536

National Endowment for the Arts [NEA]

1100 Pennsylvania Avenue, NW, Washington DC
20506
[202] 682-5400

National Endowment for the Humanities [NEH]

1100 Pennsylvania Avenue, NW, Washington DC
20506
[202] 786-0438

Save America's Treasures

National Trust for Historic Preservation
1785 Massachusetts Avenue, NW, Washington
DC 20036
[202] 588-6215
[fiona_lawless@nthp.org]

Additional published resources can be found in
the bibliography.

CASE STUDIES

SITE SPECIFIC ISSUES AND RECOMMENDATIONS



PREFACE

The following case studies were undertaken in two phases as the field component of the Historic Cemeteries Preservation Initiative. Study sites were selected from past applicants to the Historic Landscape Preservation Grant Program that had not received grant funding. The sites included in this program represent a diverse range of the ages, styles, conditions, elements and levels of activity found in the Commonwealth.

The consultant team assembled to undertake this project represented the full spectrum of disciplines required to address the various issues presented by historic burial grounds and cemeteries and included a landscape architect, arborist, archaeologist, preservation technology specialist, structural engineer and landscape historian.

Once communities were selected for inclusion in this undertaking, each site was visited and assessed to determine the appropriate consultant expertise necessary to examine each site in more depth. With a wide range of elements and conditions, it was not necessary for every consultant to visit each site. Submissions were also reviewed to determine what additional information would be necessary or desirable to complete the work. Each community was contacted with a request for supplemental information [typically historic and contemporary plans with boundaries, site features and topography, preferably with dates, assessors maps, etc. illustrating the scale and surroundings of the particular site] to be provided prior to the site visit. Other desired information included written documentation like Massachusetts Historical Commission Form E if available, atlas references, and historic and contemporary photographs.

An overall schedule was developed identifying when specific communities would be visited with dates, times and consultants. Because of the time of year during the first phase [late winter/early spring 1999], it was determined to commence work in the southeastern part of the state, work north and then west to reduce the possibility of schedule interruption resulting from snow cover. Visits to the sites during the second phase were completed over the course of the fall of 2000 and spring of 2001. Communities were advised of the schedule and adjustments were made when necessary and possible.

Representatives from the communities met the consultant group at most of the sites, which gave an opportunity for exchange and discussion of issues of importance to each community.

After the site meetings and field investigations, the consultants prepared draft reports of their findings and recommendations which were forwarded to each community as well as the Department of Environmental Management and Massachusetts Historical Commission for review and comment.

Because of the range of sizes of the properties examined [0.03 to 22.5 acres] and the desire to have all site plan drawings easily fit within the format of this report, three scales of drawings were selected to facilitate comparison of properties.

The summary workshop in May 2000 provided an opportunity for all parties to assemble, discuss and exchange ideas about the challenges and possibilities of the preservation of these important historic sites.

A prioritized cost estimate has been provided for the properties included in the second phase to help communities understand the cost implications of the General Recommendations. In addition, approximate costs of various types of grave marker repairs have been provided in the General Recommendations section.

National Register Status: Not Inventoried
Current Management: Cemetery Commission
Status: Inactive
Condition: Fair



View from top of hill toward town center. Baldwin Family Tomb at right.

FIRST BURIAL GROUND

WOBURN, 1642

Located in the Woburn Square Revitalization area on a gentle west facing slope that rises to meet a large ledge outcropping, Magazine Hill, First Burial ground is the oldest public burial ground in town. Dated to c 1642, it is assumed to have opened when the town was founded and served as the town's principal burial ground until 1794 when a second yard was opened across from the village center as a parish graveyard that was later purchased by the town in 1824.

There is a fine view to the town center from the apex of the hill, once called Mt. Seir. For many years it went by the name of Powder House Hill. On its apex, a little outside the limits of the burying ground, stood one of the community's old brick powder houses, one of many erected in Massachusetts towns during the War of 1812.

The only encroachment was the 1849 layout of Park Street, which resulted in the stone wall and former town pound along the roadway. Displaced graves were relocated to the burial ground. Based upon the 1849 plan location, the pound was located approximately at the end of the stone retaining wall north of the entrance on Park Street. It appears that the burial ground expanded, either by acquisition or contribution, about 1856 when James Fowle, Esq. died. The 1849 plan indicates that the small parcel then belonged to Fowle. Today the burial ground is approximately 1.4 acres in size.

First Burial Ground contains headstones that are apparently randomly placed as is typical of 17th and early 18th century graveyards. It contains a number of important people, some of which are in unmarked graves. Buried here are: Capt. Edward Johnson [1598-1672] founder of the town of Woburn and author of "The Wonder Working Providence of Zion's Savior in New England", the first printed history of New England [1653]; 4 of the early ministers; Benjamin Thompson, father of Count Rumford; 15 soldiers of the Revolution including Daniel Thompson and Ashael Porter, casualties of the Battle of Lexington and Concord [1775]; and ancestors of Presidents Franklin Pierce, Grover Cleveland, Benjamin Harrison, Calvin Coolidge and Herbert Hoover like William Symmes, ancestor of President Harrison. The gravestone of Aaron Cleveland, ancestor of President Cleveland, is along the west edge near the street.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The landscape appears intact in that there has been little topographic change. There is an overall grade change of about 30' from the pedestrian entrance at the southwest corner to the high point in the northeast corner.

While it is not known if there were trees in the burial ground during its period of significance [c 1642 to 1794], it is unlikely that there were many, if any. The existing trees were clearly added at some point during the 1900s. The site is relatively open as is appropriate for a burial ground of this vintage, with only 9 trees. This openness does however allow the visual intrusion of the surroundings near the entrance and along the north end. The overall condition of the landscape is deteriorated, including lawn areas.

Recommendations

Provide additional perimeter planting to screen out buildings immediately adjacent to the burial ground, particularly the building that forms a boundary in the southeast corner, and along the north boundary. If the potential future parking lot is built, insure that screen planting is provided along those edges even though the parking will be well below eye level from the burial ground.

Consideration should be given to land acquisition adjacent to the entrance. This would allow filling in the hole now used for parking and a dumpster, which in turn would make the entrance experience much more pleasant.

Planting

Issues

All of the existing trees are relatively mature, large deciduous shade trees. The 9 trees are made up of 5 Sugar Maple [*Acer saccharum*], 2 Horsechestnut [*Aesculus hippocastanum*] and 2 White Ash [*Fraxinus americana*]. While many have decay throughout their main stems, there is no indication of pest problems.

Recommendations

Because decay in the main stems of trees can lead to structural failure and subsequent potential damage to the historic resources of the burial ground, 6 trees are recommended for removal including 2 Sugar Maple, 2 Horsechestnut and 2 White Ash.

Only 3 trees, all Sugar Maple, are recommended to be preserved. One of them needs a support system because it is a codominant tree [a natural defect] that may fail under adverse environmental conditions. Support cables have proven to be of help in preventing large branch loss. These trees are in fairly good condition and should respond to pruning and fertilization.

Volunteer Growth

Issues

While there is no volunteer growth inside the burial ground, there is quite a bit at the perimeter, outside the fenced edge on the north, east, and south sides.

Recommendations

Work with adjacent property owners to keep volunteer growth under control.

Lawns

Issues

Lawns are in fair to poor condition with some bare spots and herbaceous weeds. This may in part be due to the rock outcrops and porous sandy soils. The worst conditions are related to the steep slope near the Baldwin monument and along the steep bank on the east edge.

Recommendations

Lawn areas should be top dressed with the applicable soil amendments added and then reseeded.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Public access is unrestricted with a latched but unlocked chain link gate on Park Street. The opening is 3' wide. There are also steps immediately inside the gate. Slopes are too steep to provide universal access to the interior of the burial ground from Park Street or the potential adjacent municipal parking facility.

A pedestrian connection between the potential adjacent municipal parking facility and Park Street could be beneficial in that it would provide greater public exposure for this historic burial ground. A new route should be clearly defined and located in such a way as not to place the historic resources in danger. It should not be considered a universally accessible route because implementation of such a path would cause significant harm to the historic fabric of the property.

Recommendations

Maintain the current pedestrian access from Park Street and consider extending it to the municipal parking facility if those plans proceed.

Vehicular Access

Issues

There is no public vehicular access to the site and reputedly no maintenance access. Hand mowers are currently lifted up from street. There is however an apparent maintenance access route through a breach in the fence on the east side.

Recommendations

If vehicular maintenance access is desired, work with the plans for a new municipal parking lot to facilitate this access.

Security

Issues

The burial ground has no security. It is located on a secondary street, hidden from Woburn Common and not easily seen. While the perimeter is mostly fenced, breaches in the fence allow easy escape when viewed from Park Street. The retaining wall along the street is also easily scalable.

Recommendations

Security measures should be improved by keeping gates locked, repairing and/or replacing fences to eliminate access points and providing increased police presence. If plans for the adjacent municipal parking facility proceed, consider keeping the gates open during the day and locked at night.

VANDALISM

Issues

The elements of this historic burial ground have suffered the destructive impacts of vandalism. In addition to a number of broken grave markers, paint graffiti can be found on two slate grave markers and the granite obelisk marking the Baldwin family tomb. Broken glass was found at the Baldwin tomb and at the top of the bank on the east side. A number of bottles were also found in the interior of the site.

Recommendations

Active police patrol and control are recommended to curtail this threat.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

The paved circulation system consists of a relatively short single walk with a stepped ramp along the south edge of the property from the entrance to a plaque. It appears to be less than 50 years old. There are no defined drive areas.

Recommendations

Maintain the existing circulation system and consider expanding it as discussed under Access and Security.

Steps

Issues

Immediately inside the entrance is a stepped ramp composed of concrete paving and steps of intermixed materials. There are 6 granite and 2 concrete risers. Some of the granite treads have settled and some have exposed reinforcing bars apparently holding the granite riser faces in alignment.

Recommendations

This feature should be removed and rebuilt with all granite treads. The slope is too steep to consider eliminating the steps.

Pavement Materials

Issues

There is a short concrete path associated with the stepped ramp inside the burial ground. The adjacent brick edging is falling out of alignment. There is a bituminous concrete sidewalk outside the burial ground in the public way.

Recommendations

Consider a bituminous walk with a chip seal finish to provide a more rustic appearance. If, however, a connection is made to the potential municipal parking facility and it is anticipated that this path would be plowed of snow, consideration should be given to other materials.

GRAVE MARKERS

Headstone and Footstones

Issues

An 1890 survey found approximately 270 stone grave markers. Volunteers are currently providing a new survey that is expected to find a lesser quantity of markers. The vast majority of the grave markers are slate as there were only a few interments after 1793. Some are the works of the "Charlestown Carver" and Joseph Lamson [the 1692 stone of Capt. John Carter with "pilasters of bold organic motifs and floral designs, culminating in delicately realized star-petal capitals." Another important stone is that of Anna Cooper c 1750 by one of the Lamson family. A contemporary replacement slate marker has been placed in the burial ground for Asahel Porter who was slain at the Battle of Lexington in 1775. The Baldwin Historical Society erected it in 1975.

In addition to the slate markers, there are 3 or 4 marble markers, a marble obelisk, a brownstone table tomb and a granite monument. Deterioration is evident in some of the grave markers due to weathering and vandalism. Weathering has caused delamination of some of the slate markers. Most of the markers are upright. A few are leaning or toppled. There are a number of broken markers, apparently from some time ago. There were no visible remnant pieces for some of the broken slate markers. About a half dozen should be repairable.

Recommendations

Reset, repair and clean grave markers based on the prioritized recommendations noted herein.

Table tombs

Issues

Adjacent to 4 rough hewn granite support posts near the center of the burial ground lies a large brownstone slab. The brownstone portion of this toppled table tomb has a circular and a rectangular indentation, presumably for inset stone or metal components that were inscribed with the names of the deceased.

Recommendation

Reset the table tomb top on the support posts.

Monuments

Issues

The only tomb, the Baldwin family tomb, is located along the north edge of the burial ground at the crest of Magazine Hill. The grey granite obelisk is the most conspicuous object on the site, with the inscription: "To the memory of the honorable Loammi Baldwin, who died October 20, 1807, aet. sixty-three. Erected by his children," it honors Col. Loammi Baldwin [1745-1807], Continental Army officer, builder of the Middlesex canal and propagator of the Baldwin apple. There are 13 Baldwins entombed within, including Loammi Baldwin the Younger [1780-1838], called the father of American Civil Engineering, builder of naval dry docks, canals and turnpikes, and designer of the Bunker Hill Monument. Brother James F. Baldwin [1782-1862], builder of the Boston and Lowell Railroad and the Boston Water System, is also among the family members. In addition to suffering from paint graffiti, about 12" of settlement is apparent at the base, exposing foundation stones. One stone at the foundation is also missing.

An isolated Victorian marble obelisk is located in close proximity to a concrete block garage at the southeast corner of the property. It was erected in the memory of James Fowle, Esq. who died in 1856 by John Fowle. The foundation below the granite base has been exposed by about 12" of settlement. The marble is eroding, suffering the impacts of acid rain deposition, and has biological growths. On the back side of the obelisk is some scratched graffiti.

Recommendations

Provide earth fill to cover exposed foundations.
Remove graffiti and clean monuments.
Protective coat the marble obelisk.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

The Park and Central Street edges are lined with an 1849 stone wall that retains the burial ground above the street. Varying in height from 4' to 5', the wall is rubble stone construction with mortared joints. There are areas of heavy mortar application on the face, presumably in previous repair attempts. The top of the wall has a thick parge with stones set into it to prevent people from sitting on the wall. There are numerous patches in the top of the wall.

There is also a short section of low stone retaining wall at the south end facing Park Street. The chain link fence set immediately in front of it retains leaf litter, concealing the condition of the wall.

A former tree apparently caused a bulge in the wall, near the north end on Central Street. This is indicated by a depression immediately behind the bulge. In four other locations, stones are missing from the wall, typically at or near the top.

Recommendations

Remove and rebuild about a 10' long section where the wall has bulged. Replace missing stones in other parts of the wall.

Consideration should be given to rebuilding the short section of low stone retaining wall at the south end facing Park Street at a higher elevation. This could be done in such a way as to be more harmonious with the rest of the wall, express the fact that the town pound was once in this location, and improve security of the burying ground. This solution would also work well with the fence recommendation.

FENCES AND GATES

Perimeter Link Fences and Gates

Issues

Much of the perimeter is enclosed with a 5' high chain link fence. Most of it has or had three strands of barbed wire at the top. Only the north end of the Park Street edge and the Central Street edge has no fence. While there are some relatively new sections, most of the fence is rusted. There are a number of breaches in the fence including a 10' wide and a 20' wide breach on east side, a small breach on the north side adjacent to a neighboring house, and an area on the east side where the chain link fabric is raised about 12" above the ground. There are also sections along the south and southeast edges that have been damaged.

Recommendations

Remove the perimeter fence and replace it with vinyl coated chain link. Along Park and Central Streets, consideration should be given to providing a more attractive, simple metal picket fence. While no fence along this edge would be the most appropriate, public safety and security issues make it highly desirable to provide a barrier of some type.

SITE AMENITIES

Signs

Issues

The burial ground contains three signs and one sign post with no sign. The sign nearest the entrance is a post mounted iron plaque, painted bronze, erected by the Converse Family in America in 1962 in memory of Deacon Edward Converse, founder of the City of Woburn. The second sign is also a post mounted iron plaque, painted bronze, identifying the site as "Park Street Burial Ground." It was erected in memory of 15 Revolutionary War soldiers, and lists each soldier.

The third sign is located at the end of the walk. It is a bronze plaque mounted on a low granite base of recent construction. It also identifies the site as "First Burial Ground, 1642 until 1794" and notes that the burial ground contains the remains of Daniel Thompson and Ashael Porter, casualties of the Battle of Lexington and Concord.

Recommendations

Consider altering the locations of existing signs such that a more inviting, informative experience is provided for visitors. Provide regulatory signs and small scale interpretive improvements.

Trash Receptacles and Seating

Issues

None of these elements are present.

Recommendations

Do not provide these amenities inside the burial ground.

Flagpoles

Issues

A single Flagpole is sited adjacent to the circular paved area that contains the monument and plaque. The flagpole is brushed aluminum, about 25' high, and in good condition. It was reported to have been erected for the Bicentennial by re-enactment "Minutemen." No flag was observed.

Recommendations

If the flagpole is no longer used, it should be removed. If it is being used, consideration should be given to relocating it if the walk is extended to serve the potential municipal parking lot.

UTILITIES

Drainage

Issues

The site slopes from east to west and all drainage occurs on the surface. Storm water is collected in the street near the Park/Central Street intersection.

Recommendations

No changes are recommended.

Water Supply

Issues

No source of water is apparent inside the burial ground. A fire hydrant is located immediately outside the pedestrian entrance.

Recommendations

No changes are recommended.

Lighting

Issues

There are two wood utility poles with overhead wires on the burial ground side of the south end of Park Street. Ambient light is provided from adjacent street lights on the utility poles on Park Street. There may also be some ambient light from adjacent security lights.

Recommendations

No changes are recommended. In the future, consider relocating the two utility poles adjacent to the burial ground to the opposite side of Park Street.

LEGEND



Existing
Deciduous Tree



Remove Tree



Screen Planting



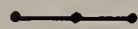
New Tree



Utility Pole



Pedestrian Entrance



New Chain Link Fence



Flagpole



Fire Hydrant



NORTH

BY:

WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
SUZANNE SPENCER-WOOD, CONSULTING ARCHAEOLOGIST

SARA B. CHASE, PRESERVATION CONSULTANT

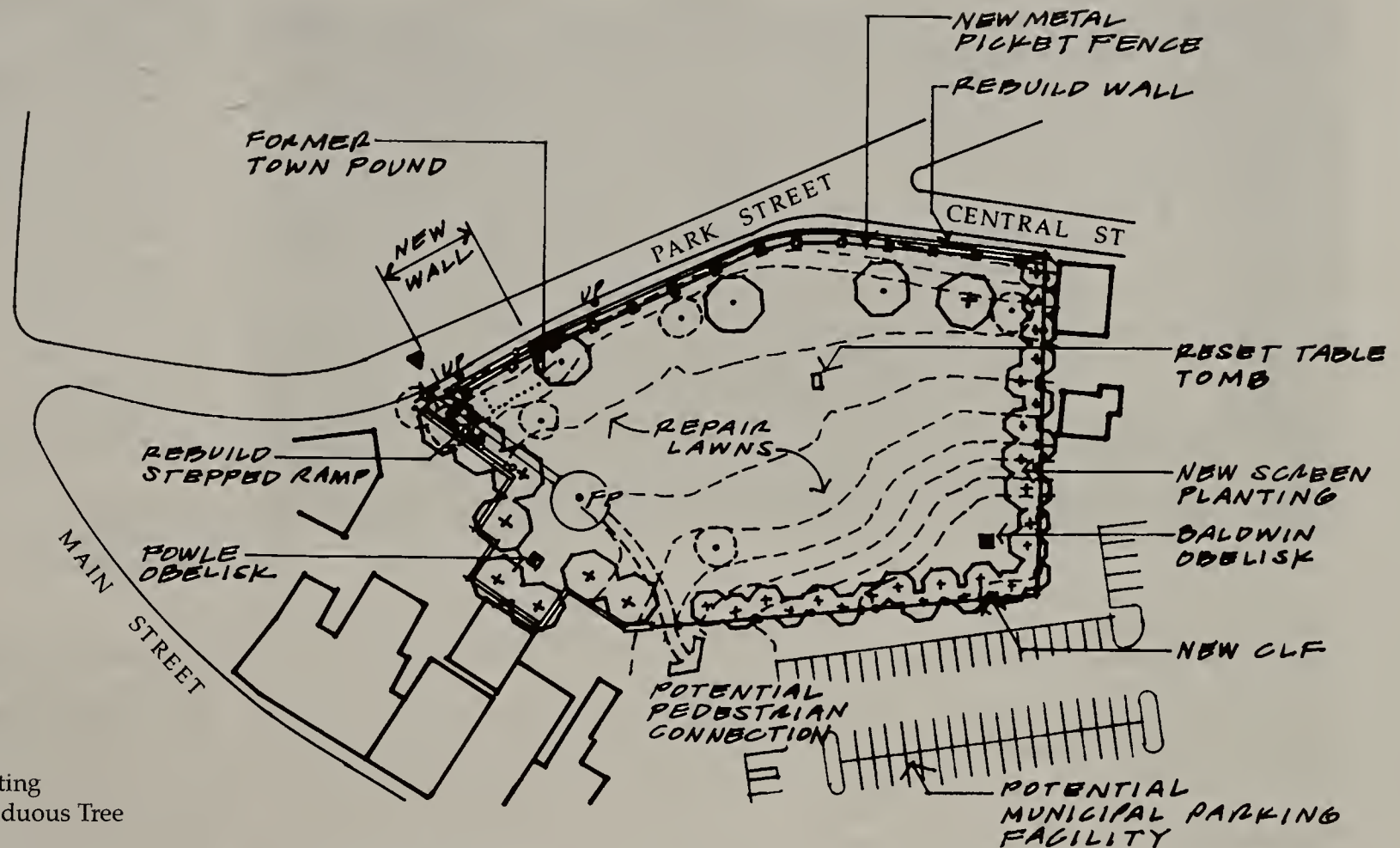
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

FIRST BURIAL GROUND PRESERVATION PLAN WOBURN, MASSACHUSETTS

PREPARED FOR:

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE



FEBRUARY 2001
1" = 100'

PRIORITIES

High Priority

- Removal of trees with large cavities, leaning into the cemetery, drives or grave markers.
- Tree replacements.
- Lawn repairs.
- Inventory of stones with locations.
- Restoration of grave markers that present public safety hazards or are structurally unsound.
- Replacement of dowels in multipart stones that are visibly cracked or spalled.
- Conservation of historically significant marble markers that are in danger of becoming illegible.
- Slate marker resetting and repairs.
- Broken stone repairs if the inscriptions are legible and at least 75% of the stone is available.
- Removal of graffiti and cleaning of monuments.
- Protective coating marble obelisk.
- Resetting table tomb.
- Earth fill at exposed monument bases.
- Perimeter wall repairs.
- New wall segment on Park Street.
- Perimeter fence replacement.
- Regulatory signs.

Medium Priority

- Removal of trees with large cavities, leaning away from drives and grave markers and not located in the front area where vehicles may drive.
- Entry walk and step replacement.
- Dowel replacement in multipart stones with visible metal stains at the junction between stones.
- Cleaning legible markers.

Low Priority

- Pruning of trees with a small amount of dead wood and branches, and trees protected from the winds in close to the edge or other trees.
- Sign program reconsideration.
- Resetting markers that have shifted or are leaning.
- Reevaluation and conservation of marble markers that are currently in satisfactory condition, as necessary.

Items related to implementation of the potential adjacent municipal parking facility have not been prioritized as they are entirely dependent upon that project moving forward.

PRIORITIZED COST ESTIMATES

High Priority

Tree removals	\$5,000
Tree support systems and fertilization	1,000
Tree replacements	18,000
Lawn repairs	18,000
Perimeter wall repairs	5,000
New wall segment at Park Street	15,000
Chain link fence at perimeter	8,000
Metal picket fence at Park Street	55,000
Regulatory signs	<u>1,000</u>
	126,000

Medium Priority

Tree removals	4,000
Tree pruning	1,000
New entry walk and steps	<u>6,000</u>
	11,000

Low Priority

Tree pruning	1,000
Sign program	<u>10,000</u>
	11,000

Costs associated with grave marker work have not been included. Refer to the General Recommendations section for approximate costs of various types of repair.

Costs associated with items related to implementation of the potential adjacent municipal parking facility have also not been included.

National Register Status: Listed, in John Metcalf
Historic District, 1989
Current Management: Department of Public
Works
Status: Active
Condition: Good



Puritan Monument

VINE LAKE CEMETERY

MEDFIELD, 1651

Located on a hilltop, the oldest section of this cemetery is adjacent to Main Street, Route 109, just west of the village center. Originally known as the "burying place," the land for this site was set aside in 1651.

Starting in 1842, the town added land to the cemetery so it included ground that rises up on two sides of a small lake. In 1890 the cemetery was enlarged and formally dedicated as Vine Lake Cemetery, named after Vine Brook which flows into and through Vine Lake Pond. The same year the cemetery was described as "no more beautiful spot in all this fair town than that sunny enclosure, with Vine Brook murmuring by and the river sparkling in the distance."

A third expansion occurred in 1917. Landscape architects Blaney and Blaney of Boston were retained "to create the quiet restful feeling of a well-designed and cared for Rural Park."

Only the oldest historic section was examined, a hill between Main Street and Vine Lake, about 4 acres of a much larger cemetery. This part of the cemetery is characterized by a dense arrangement of free standing grave stones dating from the late 1700s through the 1900s. Steep hillside slopes facing Vine Lake are terraced with low stone walls and steps.

Dedicated solely to the burial of Medfield residents, the cemetery contains most of the original settlers and residents. Familiar names in the cemetery include Allen, Bullard, Clark, Mason, Metcalf, Morse, Plimpton and Wheelock. The earliest dated stone is 1661. A major memorial in the cemetery is the Puritan Monument, erected in 1858 in memory of 7 Puritans who emigrated from England to America from 1635 to 1639. One marker reads "In memory of Henry Adams, eldest son of Mr. Elijah Adams and Abigail, his wife, who died Ag. 7, 1787, aged 16 years. His untimely death was in consequence of incurable ulcerous sores under which he painfully lingered in great agony, confined to his bed for 132 days." The cemetery also contains 521 patients from Medfield State Hospital, many resting in unmarked graves.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

A variety of evergreen and deciduous trees have been added to the old part of the cemetery, in a random pattern for the most part.

Recommendations

Given the age of this part of the cemetery, supplemental planting is not needed or desired at this time. However, some shade trees along the Main Street edge would help separate this part of the cemetery from the road.

Planting

Issues

The diversity of vegetation includes large deciduous shade trees like White Ash, European Beech, Shagbark Hickory, Horse Chestnut, American Linden, Norway Red Maple, Sugar Maple, Sycamore Maple, Red Oak, White Oak and Weeping Willow as well as small deciduous trees like Black Cherry, Flowering Crabapple and Hawthorne. Evergreen trees include Eastern Red Cedar, Eastern Hemlock, Ponderosa Pine, Red Pine, Norway Spruce and White Spruce. There is also a clipped White Pine hedge along the west property line. Other plants found include Barberry, Forsythia and Yucca.

Overall, 107 trees were examined with a distribution of about 60% evergreen and 40% deciduous. The largest trees included a 45" Norway Spruce, 42" European Beech, 41" Sugar Maple and 41" and 40" Lindens, measured about 42" above the ground. Most trees are in fair to poor condition, needing fertilization and root collar examination. No pests were observed.

Of those examined, 14 are recommended for removal including a structurally unsound Beech, a Norway Maple with a broken codominant stem, a Hemlock that is interfering with markers, a Horse Chestnut with trunk decay, a Red Oak with a base cavity, and a Sugar Maple hanging over a road that also is structurally unsound and exhibits 50% decline.

Recommendations

Remove hazardous trees, especially the Sugar Maples that are leaning over the road. Many of the trees have main multistem branches with either decay or natural structural defects, which may fail under adverse environmental conditions. Support cables help prevent large branch loss. Recommendations for support systems to help prolong the life of a tree that is still in fairly good condition generally fall into the highest priority, depending on location.

Soil samples are always recommended before decisions are made to apply fertilizer to any plants in the landscape to avoid excessive use of chemical fertilizers or lime and spending needless funds. Lime and fertilizer should be applied to all the trees as recommended by soil analysis.

Root collars or root flares are often damaged by lawn mowers. Naturally occurring girdling roots can slowly cause decline in a tree. All soil and mulch should be kept at least one foot from tree root collars so as not to encourage circling roots or decay organisms that can damage root collars.

Volunteer Growth

Issues

Except for a few small trees growing adjacent to family plot edging, volunteer growth appears to have been kept under control.

Recommendations

Continue to remove all volunteer growth.

Lawns

Issues

Lawn areas are generally in fair condition with some moss and herbaceous weeds. Bare spots are present at the lower level related to concentrated flows of storm water runoff. Erosion is becoming evident at some steep slopes.

Recommendations

Lawn areas should be top dressed with the applicable soil amendments added and then reseeded.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

With no separate pedestrian entrance from Main Street, both vehicles and pedestrians share drive entrances. There is a bituminous concrete walk along Main Street. Once inside the cemetery walking surfaces include gravel drives, lawn and some gravel paths. The topography of many areas inside the cemetery is suitable for universal access. However, access between various areas is often steep.

Recommendations

No changes are recommended. Universal access should continue to rely on vehicular access routes.

Vehicular Access

Issues

There are two points of vehicular access to the historic portion of the cemetery from Main Street. Both have 12 to 14" square rough finished vertical granite gate posts where chains and padlocks once provided control. The posts vary in height from 40 to 48". These devices are apparently no longer used. There may have once been gates as the west access has 2 drill holes in the west post and 2 iron latches in the east post. The east access to the old cemetery has 19' clear between posts and the west access has 20'-6" clear.

A third access point on the far west side, Wilson Avenue, leads to the active portion of the cemetery. Apparently no longer used, it is now blocked off. The active portion of the cemetery has a separate access point.

Recommendations

No changes are recommended.

Security

Issues

The cemetery is officially open from dawn to dusk.

Recommendations

No changes are recommended because vandalism appears to be negligible.

VANDALISM

Issues

No evidence of recent vandalism was observed. A few markers are toppled, laying flat, and some older stone repairs were found.

Recommendations

No changes are recommended.



Hewins Avenue

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

A single lane loop drive, made up of Hewins and Wheeler Avenues, is the primary vehicular circulation route. Kingsbury Avenue provides an internal cul de sac. Some narrow interior paths provide routes for pedestrian circulation.

Recommendations

Maintain the existing circulation system.

Steps

Issues

There are numerous short runs of granite steps with 2 to 4 risers as well as some concrete steps at the north edge. While most are in good condition, a few have settled or rotated out of position. There is also a long run of steps opposite the bridge at Vine Lake that appears to be sinking backward into the ground.

Recommendations

Remove and reset the steps that have moved out of position to establish a uniform riser height within each set of steps. Provide a free draining foundation of suitable depth to reduce the effects of frost heaves.

The sinking stairs could be reset but they probably do not conform to contemporary requirements for outdoor stairs. For this reason, it may be better to remove them completely or rebuild them completely as code conforming steps.

Pavement Materials

Issues

Primary drives are gravel. Secondary drives are gravel or lawn. Most paths are lawn with some gravel.

Recommendations

Maintain the current paved drives in gravel. Maintain walks in grass.

GRAVE MARKERS

Headstones and Footstones

Issues

The grave markers in the older portions of the cemetery must number well over 1000. Markers dating from c1700 through the early 20th century were observed during this survey of stone conditions. Most of the earliest are slate tablets located near the center of the cemetery. The earliest stones are believed to be the two marking the grave of Samuel Morse who died in 1654. They bear no lettering but each has a hole bored through it. The earliest dated stone is the 1661 marker on the grave of Lydia Lovell.

The marker for Allan Kingsbury, Medfield's first Civil War volunteer, has the inscription "My Country Calls and I Must Go." He was killed at the battle of Yorktown in 1862.

Grave marker materials include slate, marble, granite as well as some brownstone and zinc. The red slate tablets, some of which had spalled, are unusual. Another unique marker is a highly polished black slate tablet marking the burial of Erich Loeffler [1863 - 1909]. Most of the slate tablets have visible mower scars a few inches above grade. Lighter stones like marble do not show the scars as clearly.

Some broken slate markers have been repaired with bronze bolts and straps, requiring holes drilled through the tablets. A few adhesive repairs of marble and slate tablets have been done quite well, with the joints tightly fitted together and only the slenderest line of a white "glue" of some sort. Other stones, however, have had adhesive repairs which are glaring and obvious, and which are supporting the growth of moss and lichen.

Multipart stones like marble tablets are often connected to their bases with iron or bronze dowels. Where subsurface soil has subsided or eroded and stone bases have tilted, or where this type of marker has been vandalized, the dowels have been exposed to moisture and corroded, staining the white marble an intense turquoise/green where bronze has been used and orange where iron has been used. The corrosion also expands the metal, causing fractures in the stone.

Earth covers flat stones rather rapidly. Some fairly recent bronze and granite markers that are set flat are now nearly concealed. This is of great concern for toppled markers. Gentle probing with implements like large wood knitting needles could lead to the discovery of older slate markers or marker fragments now completely covered.

On the terraced slopes and in some other areas as well, stones are beginning to lean due to earth washout or settlement. Tilting stones may topple and suffer damage. The Leeds markers have considerable erosion beneath the bases on the downhill side.

Several burial sites have shrubs and overgrown Yews now too close to the stones. Not only can the roots disturb the stability of the bases, but the shade also allows moisture to remain liquid longer. This supports botanical growth like mildew, fungus, lichen or moss, all of which are harmful to stone and inscriptions.

The zinc markers were for the most part in good condition. Overall, 4 large and 11 small zinc markers were found. The Hamant family plot has 1 large and 7 small markers. The J. R. Smith marker has one panel missing and open joints which have permitted moisture to enter and rust the iron armature inside. Rust stains show on the exterior of the base. The foundation of the Cushman marker is exposed. A small zinc footstone is broken.

Recommendations

A complete inventory of all individual grave markers dating from the earliest through at least 1900 is highly desirable. With such information, a conservation program to treat the most important and most at risk stones first could be set, thus guaranteeing that money spent on stone conservation was well directed.

In addition, survey and identify markers that have legible inscriptions but are eroding due to soiling or botanical growth. Markers that are still legible but rapidly eroding should be designated for conservatorial treatment as soon as possible. Markers with entirely illegible inscriptions need not be treated, at least not in the initial rounds of treatment.

Remove lichen and other botanical growths with the careful application of a biocide to kill the lichen, followed by gentle removal of the plant growth when it is dead. That work is best done by an experienced conservator. Because the potential for irreversible damage is great, cleaning historic grave markers should be done only under the supervision of an experienced conservator. Some conservators give instruction and supervision so that volunteers can be trained to do the work with minimal damage to the stones.

Older repairs using iron that has now rusted should be redone. Older repairs using cement mortars or other materials that have not adversely affected the markers should be left alone. Where broken pieces of markers can be found, identified, and reincorporated into the upright remnants, or can be completely reassembled and re-erected, repairs and resetting should be done by experienced conservators. Some conservators can instruct volunteers, so that the work can be carried on.

Reset markers so that there is a sufficiently stable base below grade and full inscriptions are exposed above grade.

Monuments

Issues

By the middle of the 19th century obelisks and columns were a popular type of marker and most were marble, with some use of brownstone. This cemetery has many with heights ranging from 3 to 6', not counting the plinths or bases. The most notable and prominently placed is the tall 3 obelisk Puritan Monument, which commemorates "the memory of seven Puritans who emigrated from England to America in 1635 . . ." The monument was erected in 1858 and signed "J. Foote, Boston." Sited on a slight mound, the foundation is exposed.

All monuments of this type are vulnerable to tilting, toppling and ultimately to breakage due to settlement or erosion of the subsurface soils, which exposes foundations and footings unevenly. Soil erosion has affected 25% to 40% of the monuments here, although tilting or toppling has not yet occurred.

The short marble Johnson monument is slightly leaning and missing a decorative top piece. The grey granite Langley monument has an exposed foundation on the back side and some soiling. The Russell obelisk displays an interesting combination, with the marble of the obelisk and its urn somewhat eroded overall, but relatively clean while the brownstone base has a thick growth of yellow lichen.

Recommendations

Provide free draining earth fill to the appropriate level at the bases of monuments where settlement or erosion has occurred. Remove biological growths as recommended for grave markers. A qualified conservator should clean and repair soiled and broken monuments.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

Main Street Wall

The stone retaining wall along Main Street is about 26" wide and ranges in height from about 12 to 42", but is generally about 36 to 42" high. The wall has a slight backward batter. It consists of granite rubble units with flat, quarry split or hammered faces laid up in a random pattern. The top course has squared corners while the lower units are more irregular. A typical stone unit is about 18" wide, 12" high and 3' long. The joints between stones are filled with a hard mortar that has been decoratively incised. Although there are a few cracked and missing mortar joints, the stone units are undisturbed and flush with each other. There is no outward leaning or shift in alignment even where the hillside behind the wall slopes 5 or 6' above the wall or where two large trees are present near the west end of the wall. At the west entrance into the cemetery, the curved wall appears to be a newer extension of the Main Street wall. It is built of smaller stones and their lay up is more irregular.

Recommendations

Main Street Wall

As a whole, the Main Street wall is in excellent condition and only minor repointing work is needed where there are occasional gaps or looseness in the mortar joints. This wall should be inspected by cemetery personnel and maintained on a periodic basis in order to ensure that the mortar remains tight. High strength mortars should be not be used because they become so brittle that they cannot resist the seasonal movements of the wall without cracking; that is, the high strength is detrimental to the integrity of the wall and does not contribute to holding it together better.

Interior Walls

Issues

A low stone retaining wall similar to the Main Street wall runs along the east side of Hewins Avenue, a cemetery driveway. Laid up in a broken ashlar pattern, this 20" wide, 32" high wall is in excellent condition with apparently original recessed mortar joints. A thin mortar wash on top of the wall is generally free of cracks. This wall is in excellent condition. However, as the wall approaches the top of the hill it changes from a mortared wall of quarried stones to a dry laid wall with a combination of fieldstones and quarried stones. There are many large voids amongst the stone units, but the stone units themselves are well seated and retain their original positions. This wall may have been disturbed at one time and rebuilt, or it may be a remnant of an older wall that predates the other walls on the site. At the top of the hill, there are low stone transition walls with steps cutting through. There are similar walls creating terraces in the hillside between the lower Wilson Avenue and higher Hewins Avenue. These walls are built similarly to those near Main Street but the mortar joints are more deteriorated. While the stonework itself is generally intact, many of the joints are missing, eroded and deeply etched.

North Terrace Wall.

At the northern tip of the old cemetery, there are three contiguous terraced family plots with stone retaining walls along the north edge of the terrace. While the walls along each plot are similar they differ from each other in the sizes of stone and the lay up pattern. At the easternmost plot, the steep slope of the ground has slumped or eroded downward, causing the end of the stone wall to crack and rotate downward. It was not possible to determine whether the ground movement is an active condition or whether this movement occurred long ago and has stabilized.

Site walls inside the cemetery need minor maintenance. However, a terrace retaining wall at the northernmost point of the cemetery is gradually collapsing and stabilization work may be needed. There was little deterioration seen in the walls that is normally associated with frost heaving and freeze-thaw action in the earth behind structures or within mortar joints. This lack of damage suggests that the stonework and the supporting earth are well draining and stable.

Recommendations

The site walls should be systematically observed by cemetery personnel on an annual basis. Where stones are dry laid, large voids should be filled in or chinked and any loose stones should be reset. Where mortar is missing, cracked or loose, it should be repointed. Old mortar should be chipped out to a depth at least twice the joint width. Samples of old mortar should be taken to determine its composition and any new mortar should be formulated to match original mortar in color and strength without being too hard. Joint treatment should be the same as adjacent original joints, that is, new joints should be recessed, raised or incised in a similar manner as adjacent joints.

North Terrace Wall

If the earth movement continues, it will be necessary to dismantle the end of the wall and build a deeper, more solid foundation to support its reconstruction.

Mound Tomb and Vault Structures

Issues

The receiving or holding tomb facing Main Street consists of an underground vaulted area with an exposed front wall that is about 7' wide and 7' high. Access into the vault is through a green painted, padlocked iron door that has some rust corrosion. The word "Public" is carved into the granite pediment with a pecked field and a 2" flat border above the door. There is a tapered retaining wall on each side of the front wall that projects out at right angles to the front wall. The front wall and 2 tapered retaining walls are built of dry laid, smoothly dressed granite units about 10 to 14" thick. The joints between units are open, wide and free draining. There have been no significant movements or shifting between units, which may be due to the units being pinned together. A pin is visible where there is a large gap in the bedding joint between the pediment stone and one of the side jamb panels.

Recommendations

The tomb is in good condition but minor maintenance is needed at the edges of the facade. The stone units appear to be stable so that the open joints could be left open. There is an inclination to recommend filling the joints with a low strength Type N mortar in order to prevent the intrusion of freezing water, but this may prevent water that infiltrates from behind the facade to drain out. In other words, mortaring the open joints may create a future maintenance problem.



Langley family plot

It was noted that the construction of the vault interface with the facade and retaining wall on the south side is deteriorating. Two or three small stones immediately under the pediment appear to be loose. Without excavating this corner, it was difficult to determine whether these stones have been added to replace eroded earth or whether the stones are part of the original construction and have become exposed after earth has eroded. The north and south corners of the mound immediately behind and below the ends of the pediment stone should be excavated and the vault stones reset or rebuilt in order to stabilize the vault construction. The slope of the earth is so steep at these locations that it may be better to leave the tops of the vault wall exposed rather than restoring the earth against them.

Edging of Family Plots

Issues

At least 9 of the family plots in this part of the cemetery are surrounded with granite edging. Most of the edging is raised, 6 to 8" wide, 12 to 24" deep and simply finished. Many of family plot edging units are more or less intact, but a number of them have rotated, settled at one end, or have separated at the corners. Movements are caused by earth pressures between high and low grades and from saturated, freezing earth, ie., frost heaving. It is unlikely that many the edging stones are set on foundations other than a mat of loose field stones.

Recommendations

The family plot stone edging needs routine maintenance work including resetting the stones. In order to prevent untimely displacement in the future, the corners can be stapled with stainless steel "dogs" or epoxy coated pins. The ground under and behind any reset stone should be good draining material. That is, if the ground behind the edging is found to be saturated or heavy with organic material, that material should be removed and replaced with gravel or crushed stone before covering with lawn. Likewise, if the foundation under the edging is disturbed or contaminated with saturated earth, it should be rebuilt and packed with gravel or crushed stone.

FENCES AND GATES

Iron Fences and Gates

Issues

It is apparent that the vehicular entrances once had gates of wood or iron.

Recommendations

If documentary evidence can be found concerning the appearance of these gates, consideration should be given to replacing them.

Interior Fences and Gates at family Plots

Issues

The circular Langley family plot has 15 cut grey granite [Rockport] posts connected by two horizontal round iron rails. There is also a smaller round center post at the gateway. The gate is missing. A few rails appear to be bent, but they have actually rotated out of position. The rails appear to be solid and have been leaded into the support posts. The rails have been painted grey with some rust corrosion. Some exposed foundations were observed on the downhill side of the posts.

Three other family plots have granite posts defining the extent of each plot. The corner Hewins plot has 12 tall granite posts. Each had a single iron eyehook at the top. Many are still intact although no chain remains. The plot for William Peters has 4 granite corner posts with eyehooks at the top. One rusted chain remains. The Sanders plot has 4 rough granite corner posts with 2 eyehooks per post. No chain remains.

Recommendations

At the Langley family plot, rotate the rails back into position and secure in place with lead joints. Clean, prime and paint the rails. At the other family plots, if documentary evidence can be found concerning the appearance of the chains, consideration should be given to replacing them.

SITE AMENITIES

Signs

Issues

The only sign identifying the cemetery is a wood sign stating "Vine Lake Cemetery." Sited at the turn some distance inside the west entrance to the new cemetery, it is not visible to passersby. Another sign some distance away on Main Street identifies Metcalf Historic District.

The west entrance which provides access to the active part of the cemetery has a metal sign stating "Use Dale Street entrance."

Recommendations

Provide an identification for the historic part of the cemetery in a location readily visible to passersby.

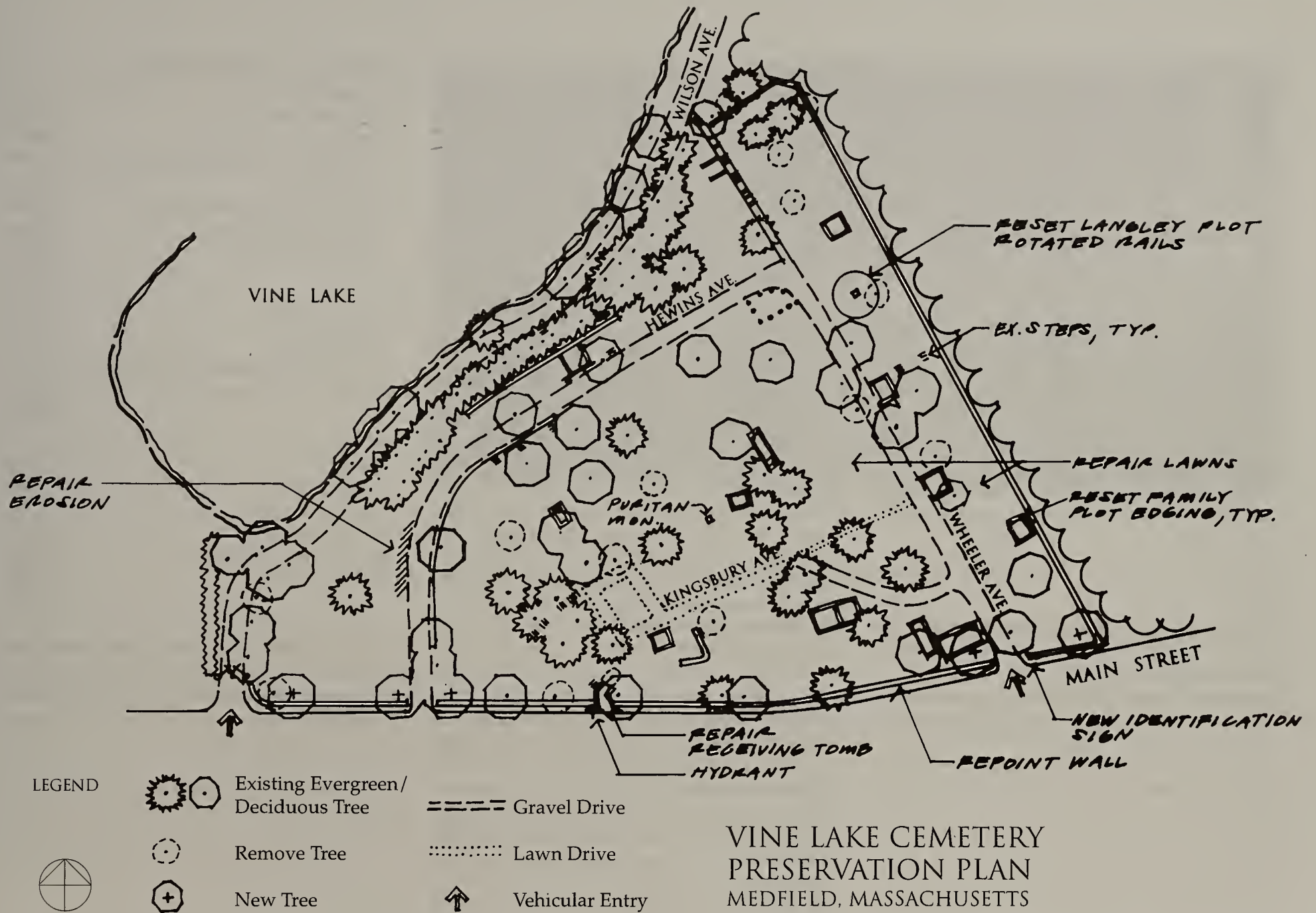
Trash Receptacles and Seating

Issues

None of these amenities exist in the older part of the cemetery. A few benches of various materials and designs have been sited adjacent to the nearby lake.

Recommendations

Do not add these amenities to this part of the cemetery.



VINE LAKE CEMETERY PRESERVATION PLAN MEDFIELD, MASSACHUSETTS

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
SUZANNE SPENCER-WOOD, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

NORTH

MAY 2001
1" = 100'

UTILITIES

Drainage

Issues

All storm water drains on the surface, primarily to the west and northwest to Vine Lake.

Recommendations

No changes are recommended.

Water Supply

Issues

Two free standing hose bibbs were observed inside the historic part of the cemetery as well as some exposed water supply pipe. A fire hydrant is located on Main Street adjacent to the receiving tomb.

Recommendations

No additional water supply is recommended. Provide adequate cover for the exposed water supply pipe.

Lighting

Issues

There are no light fixtures in the cemetery.

Recommendations

Do not add light fixtures inside the cemetery.

PRIORITIES

High Priority

- Trees with large cavities, leaning into the cemetery, drives or grave markers.
- Lawn repairs.
- Restore grave markers that present public safety hazards or are structurally unsound.
- Replace dowels in multipart stones that are visibly cracked or spalled.
- Conserve historically significant marble markers that are in danger of becoming illegible.
- Repair broken stones if the inscriptions are legible and at least 75% of the stone is available.
- Earth fill at exposed monument bases.
- Repair receiving tomb.
- Provide identification sign.

Medium Priority

- Trees with large cavities, leaning away from drives and grave markers and not located in the front area where vehicles may drive.
- Replace dowels in multipart stones with visible metal stains at the junction between stones.
- Clean legible markers.
- Repoint Main Street wall.

Low Priority

- Trees with a small amount of dead wood and branches, and trees protected from the winds in close to the edge or other trees.
- Tree replacements.
- Reset markers that have shifted or are leaning.
- Reevaluate and conserve marble markers that are currently in satisfactory condition, as necessary.
- Reset family plot edging.
- Provide interpretive signs.

PRIORITIZED COST ESTIMATES

High Priority

Tree removals	\$8,500
Tree pruning	3,400
Tree support systems and fertilization	3,300
Lawn repairs	12,000
Earth fill at monument bases	3,000
Repair receiving tomb	5,000
Identification sign	<u>5,000</u>
	40,200

Medium Priority

Tree removals	100
Tree pruning	800
Tree support systems and fertilization	400
Repoint Main Street wall	<u>5,000</u>
	6,300

Low Priority

Tree removals	900
Tree pruning	7,500
Tree fertilization	4,000
Tree replacements	3,100
Reset family plot edging	10,000
Interpretive signs	<u>10,000</u>
	35,500

Costs associated with grave marker work have not been included. Refer to the General Recommendations section for approximate costs of various types of repair.

National Register Status: Listed
Current Management: Parks Department
Status: Inactive
Condition: Poor



First Settlers Monument

EAST PARISH BURIAL GROUND

NEWTON, 1660

As the oldest public burial ground in the City of Newton and the sole remaining link to the city's beginnings, this 2.88 acre historic burial ground is located on a prominent site facing a major thoroughfare at the corner of Centre and Cotton Streets in Newton Centre. Without an active public cemetery in the City, there is no specific funding and no skilled or dedicated maintenance crew for this site. Neglected, the grounds have become overgrown, in poor condition and the historic artifacts are deteriorating.

The burial ground was established around 1660 on a one acre parcel given to the town by Deacon John Jackson that year to provide inhabitants of Cambridge living south of the Charles River a site for a burying place and a Meeting House. The plot was enlarged in 1701 by an additional one acre for a school house, burial ground and training field by Jackson's son Abraham. In 1753 one half of an acre was returned to John Jackson from the original donation. In 1765 the original burial ground was fenced in and served as pasture land for the sexton's cows. In 1767 Abraham's grandson, John Jackson formally deeded the two acres to the town provided that a fence was erected and maintained forever. The plot was enlarged again in 1803 and 1834.

The burial ground is clearly divided into two portions, defined by topography. The earliest, southern portion developed with the original town nucleus on an elevated knoll. It contains numerous slate burial markers mostly facing west, some standing in clusters, but mostly in relatively straight lines with numerous gaps. The markers are interspersed with occasional tombs and a few sandstone or marble memorials as well as open spaces containing unmarked graves, some of which may date to the earliest period of use. The 1834 addition includes family plots laid out in a geometrical grid pattern on lower, gently sloping terrain north of the original nucleus.

Because this was the only burial ground in Newton until 1781, it contains the remains of virtually every early family of the community. The first burials were the young minister John Eliot, Jr., [son of John Eliot, Apostle to the Indians, "the Roxbury divine who had been a pioneer missionary to the Indians on Nonantum Hill and elsewhere"] and his wife. Repaired in 1822 and replaced in 1823 when the town erected memorials to the first three ministers, the tomb is not original. Also buried here are the first town clerk [1693], first school teacher [1740], first Deputy to the General Court [1708], Captain Thomas Prentice of King Phillip's War, General Michael Jackson of the War for Independence and General William Hull of the War of 1812, as well as soldiers from numerous campaigns, from King Philip's War (1676-1675) to the Civil War (1861-1865). The earliest extant marker is dated 1692. The last burial occurred approximately 1988 along the north edge in lots owned by the Grace Episcopal Church.

The site also contained Newton's first Meeting House (1660 - 1697), the first school, the militia training field, and possibly the town pound, although their exact locations are unknown and have never been investigated archaeologically. Relatively level, rectangular shaped terrain around the Settlers' Monument may indicate the general vicinity of the First Meeting House, but the area may have been leveled when the monument was erected in 1852.

In the northeastern portion of the burial ground, two shallow, irregular shaped depressions could be archaeological features associated with the early nucleus or later landscape improvement efforts. Numerous slate fragments are visible beyond the burial ground proper: on the southern slope adjacent to Cotton Street and on the eastern slope leading down to Edmand's Brook. These fragments were probably thrown outside the burial ground by vandals or maintenance crews during mowing or seasonal site clearance. One slate marker (possibly inventory number 943) is located at the extreme eastern margins of the burial ground, abutting the chain link fence at the edge of the slope.

Adjacent Land

Abutting the older portion of the burial ground is a grassed open space called Loring Park, city owned and protected conservation land. The park is named for the Loring family who owned adjacent property in 1848. By 1874 the Loring parcel was clearly separated from the adjacent burial ground. It contains modest potential for archaeological features associated with the settlement nucleus.

Previous work on this burial ground includes a 1990 master plan by William Pressley & Associates, Inc., Structural Technology, Inc., and Fannin-Lehner with an estimated restoration cost of \$546,960 for the property.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The landscape character is inconsistent with the historic origins of the burial ground. At the time the original south portion was developed, trees were a relative rarity in burial grounds. By the time the family plots were laid out in the newer north section in 1834, Mount Auburn Cemetery had been established. With it came the lush landscape character of the rural cemetery movement.

Today there are quite a number of trees growing throughout the site. Most were not planted, but naturalized from other trees in the area or from existing trees in the burial ground which were few. Open areas where trees once grew are now empty with sprouting stumps and seedlings from wind blown seeds. There are obvious differences in the sizes and species of trees now in the burial ground and along the fence edge. Most of the largest trees are in the northern section.

Recommendations

The south end, with its older slate markers, should be left relatively open in character which is more appropriate to the age of development of this part of the site. If maintenance can be assured, consideration should be given to re-establishing a historically appropriate garden style planting in the northern portion of the burial ground, while relying less on evergreen trees which create too much shade to maintain sufficient ground cover.

Planting

Issues

Trees are abundant with 80% deciduous species. With 83 trees, there are 14 species and 2 related varieties of Cedar and Maple. Trees include 27 Black Oak, 9 Black Locust, 6 Sugar Maple, 6 Black Cherry, 6 White Ash, 5 American Beech, 4 Red Swamp Maple, 2 American Elm, 2 Littleleaf Linden, 1 White Birch, 8 Red Cedar, 2 Norway Spruce, 2 White Cedar and 1 Eastern Hemlock. There are fewer trees than the over 100 noted in 1990 with less Birch and evergreen trees. Trees have recently been cut along the south fence line and some trees along the Centre Street edge were removed 2 to 3 years ago. Some trees remain on the slope beyond the fence abutting Cotton Street.

The largest tree is the Eastern Hemlock in the north end with a 57" DBH [diameter at breast height]. Ten other trees grow around this Hemlock and the tree canopy of the group covers almost 25% of the northeast corner. Very little other vegetation grows in this area.

Many trees are interfering with gravestones with roots and trunks lifting and engulfing markers. Sucker growth is evident on some species of trees. Decay is common in the main stems of many trees over 26" in diameter. A couple of trees on the adjacent property have fallen on the north boundary and are lying on the fence. A standing 25' high dead tree is also on the north fence line. A large Beech on adjacent property is the seed source for many Beeches in the area including the 50' high Beeches in the northeast corner.

Shrubs and other plantings include Rhododendron, Winged Euonymous, Andromeda, Yew and Lilac as well as Periwinkle and English Ivy at the north end with Crocus, and Running Euonymous and other vines on the south fence.

Recommendations

In all, 35 trees are recommended for removal and a number of questionable others will require extensive care to prolong their lives. The large Eastern Hemlock should be removed because it is creating too dense a shade to maintain ground cover. It also has a double stem which could fail and split, damaging grave markers and other trees. It also has an insect problem known as Hemlock Woolly Adelgid that will kill the tree if not treated. The tree would require a continual program of insect control until a specific biological control becomes established. The two American Elms have died back which may be caused from the Dutch Elm Disease fungus and should also be removed. The Norway Spruce near the Cotton Street entrance should be removed. It has root decay from being damaged by equipment over the years and it may also fail and cause damage. Trees interfering with grave markers or tombs should be removed. The 19 existing stumps and stumps of trees to be removed should be cut as close to the ground surface as possible. No vegetation, including stumps, should be removed below the ground surface.

Three trees display outward signs of possible internal decay within the trunk and root systems. A certified Arborist should further evaluate them with a hazardous tree evaluation. Five other trees need support systems to help prevent loss of large branches. All trees to remain should be pruned. Large branches with extensive decay need to be pruned out to prevent damage or personal injury.

Volunteer Growth

Issues

There is an extensive amount of volunteer growth along the east side including Brier, Raspberry and a lot of Beech volunteer growth in the northeast corner. Volunteer growth is also becoming evident along the Loring Park edge and at gravestones.

Recommendations

Remove all Brier, Black Locust, Black Cherry, Red Cedar and Buckthorn which are invasive volunteer species. Remove the young Beech volunteer growth as well as trees growing into stone walls or fences and the remaining Poison Ivy.

Lawns

Issues

Juvenile stages of native grasses have invaded open areas. While this presents a landscape character that some may consider charming and historically appropriate, these grasses obscure grave markers and create the potential for inadvertent loss of historic resources with normal maintenance practices. There are numerous areas of erosion and no vegetative cover. Herbaceous weeds are prevalent in many areas as well as moss on north facing slopes and steep west facing slopes in the old section. Slope erosion is a major concern.

The burial ground is no longer mowed except for a small portion that has been mowed by volunteers in recent years. The unmown area has become fertile ground for volunteer growth, concealing grave markers. Lawns were formerly maintained by the Park and Recreation Department with riding mowers. This practice was scratching grave markers and the mowing was stopped. With no active public cemeteries in the town, the expertise of mowing cemeteries has been lost.

Recommendations

All lawn areas should be completely renovated after vegetative removals have occurred. Erosion repair and slope stabilization should be accomplished by filling and seeding, not with regrading by cutting or scraping. Vegetation should be trimmed close to the ground surface. Because the settlement nucleus has considerable potential for archaeological sites, this work should be conducted under the direction of an archaeologist.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Pedestrian access is available from Centre Street at the southwest corner of the site with one step up on a stone wall and through a 4' wide opening in the fence which is interrupted by three concrete filled steel bollards. Space between the bollards is narrow and the entrance is not universally accessible.

There is no sidewalk across, although one is being considered along Centre Street. Located on a busy street, general access is difficult. There is no nearby parking, except on weekends along Cotton Street.

Recommendations

Remove the current steel bollard entry and develop a new 5' wide pedestrian access with an appropriate lockable gate from Cotton Street where the vehicular gate is now located. Slopes in this area will allow universal accessibility with a modest amount of excavation at the Cotton Street end which should be done under the supervision of an archaeologist.

There are no development or improvement plans for Loring Park except for a potential walk addition along Centre Street. Current plans reputedly include routing the walk inside the burial ground at the north end of Loring Park on the Centre Street edge. Archaeological investigations should precede any construction. Routing the public sidewalk through the burial ground is not recommended because it eliminates potential security of the site and has significant potential for disturbance of archaeological resources.

Vehicular Access

Issues

Vehicular access for maintenance is available from both Centre and Cotton Streets. Each gate opening is 12' wide with an inward swinging gate.

Recommendations

Maintain the locked vehicular access for maintenance purposes at the current width at the Centre Street entrance. Convert the Cotton Street entrance to a pedestrian entrance as described above.

Security

Issues

The site is not secure with open pedestrian access and small but actively used breaches in the chain link fence at the rear on the east side, out of view of Centre Street. One vehicular gate is padlocked and the other has a chain but no padlock.

Recommendations

Security measures should be improved by keeping gates locked, repairing fences to eliminate access points and providing increased police presence. Additional discussion of this matter is provided under the topic of vandalism.

VANDALISM

Issues

Vandalism of the property was noted in 1981. It resulted in the removal of a number of the most severely damaged markers from the site to a city building for storage. In 1990 one small area on south stone wall had been painted with graffiti. It was also noted that gravestones had been used as targets and had been scratched. Not much vandalism has been reported in the past five to six years. Volunteer efforts have cleaned up trash and debris in recent years. Some trash and debris was evident in January of 1999, but it had been cleaned up by the end of March. People were found sleeping in the burial ground in March, under the Rhododendron on the east side. The property to the immediate east of the burial ground is an apparent active site for people to congregate for illicit activities. An abundance of trash, chairs, clothing, luggage, etc. was found. The location is concealed from Centre and Cotton Streets because of the topography and dense vegetation. It is easily accessed along a path immediately north of the burial ground and can be accessed through breaches in the fence on the east side of the site. There are still numerous toppled stones as noted earlier under grave markers. One gravestone in the southwest corner had graffiti that appeared to be from a China marker or crayon.

Recommendations

While vandalism has not been a significant issue in recent years, the illicit activities on east side of the property should be curtailed before vandalism once again becomes significant inside the site. Active police patrol and control are recommended to eliminate this threat.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

The principal drive along the western edge of the site parallels Centre Street with a major route to the eastern edge. The latter drive separates the older southern section from the 1834 addition. The continuation of the drive along the eastern edge is lost in vegetative growth. The southern section has no apparent secondary or pedestrian circulation system. The secondary system in the northern portion is defined by the cornerstones and posts of family plots.

Recommendations

Maintain existing circulation system.

Path Edging

Issues

The few remnants of brick edging at the west edge of the Cotton Street entrance noted in the 1990 master plan were not found. Stone edging was recommended at slopes on the sides of the Centre Street vehicular entrance drive to protect slopes from vehicular damage and erosion.

Recommendations

The stone edging is not recommended as it is not historically appropriate and should not be necessary once erosion conditions are corrected.

Pavement Materials

Issues

Grass and other vegetation covers the entire site including circulation routes.

Recommendations

Surface materials should be maintained in grass until visitation reaches the point where it is not longer practical to maintain lawn. At that time a paved path system should be considered.

GRAVE MARKERS

Headstones and Footstones

Issues

The burial ground has a total of 415 markers with about 340 markers in the original area [1660-1701] and about 75 markers in the 1834 addition. In the newer part, family plot boundary markers are missing and burial marker bases indicate the original location of missing headstones. Vandalism was noted in 1981 and it resulted in the removal of a number of the most severely damaged markers for storage in a city building. The 1990 master plan noted that 178 gravestones required conservation with 109 considered urgent, 61 immediate and 8 future. Conservation requirements included resetting 165 markers, adhesive repair on 55 markers, level and/or insert 19 markers into bases, clean 52 markers and 14 required other measures.

The report identified the following carvers and monument companies as being represented in the burial ground: James Foster, Daniel Hastings, E.W. Houghton of Harvard, Ebenezer Howard, Jepson of Newton Corner, Lamson family, William Mumford and John Sand. Stonecutter Daniel Hastings is buried in one of the family tombs facing Centre Street. There are also a few primitive markers.

Recommendations

Ten markers related to the French and Indian War have been restored since the 1990 master plan. Conservation requirements for the remaining markers should be re-examined and implemented. Broken memorials, slate spalls and marker fragments should be documented where they are found, examined for markings and carvings, collected and curated or used for repair, where possible.

Table Tombs

Issues

There are 7 table tombs of various materials and in varying conditions which have generally deteriorated since 1990. Tomb 290, which was not previously reported, has a marble table and a brick base. The base is in fair condition but the table is broken and the tomb below is open to the weather. Tomb 1150, which has a brownstone table and brick base, was noted with severe differential settlement and the assumption that tomb walls had collapsed inward. The tomb is now open to the weather on one side. Tomb 1195, the Jackson brownstone table tomb, was noted with moderate instability of the table because of severe erosion below the northwest column support. Delamination is evident at the bottom of table and the legs are rotated. Tombs 1346 and 1344, Norcross and Parker/Prentis, were noted with portions of the brick arch vaults exposed. Constructed of brick and fieldstone, there has been a partial collapse of the face and the vault is open to the weather. Loose stonework was reported in tomb 1370 which has a marble table and a granite base. Tomb 1842 was not found.

Recommendations

Repair the broken table of Tomb 290 and protect the tomb below from weather. Repair and reconstruct tomb 1150 over a concealed concrete foundation using existing materials. Repair tomb 1195, install a concealed concrete footing and attach the columns to the table with concealed dowels. Rebuild the faces of tombs 1346 and 1344, and clean out and repoint the arches. Repair tomb 1370 and repoint where loose stonework is observed.

Monuments

Issues

A white marble obelisk honoring the First Settlers of Newton and marking the presumed site of the first Meeting House, which stood there from 1660 to 1697, has been placed at the high point of the site. While the structure appears in good condition, the marble is eroding from acid rain.

Recommendations

Clean and protective coat the marble.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

The entire perimeter of the burial ground is defined by stone masonry walls with various materials and construction. The 1990 master plan did not address walls on the north and east sides.

Centre Street Wall: The north end of the wall is constructed of coursed rubble Puddingstone and granite. It was poorly repointed using a hard cement mortar. Moving south, the wall varies with a heavily chinked, somewhat coursed round stone appearance. The Loring Park edge has primarily round stones that are dry laid with minimal chinking. It is more prone to failure than the other walls on this edge. The length of the walls has areas of local collapse, and dislodged and missing stones.

Cotton Street Wall: This side is generally stable with dry laid field stones that are larger than those used along Centre Street. The height of the retaining wall varies above the street, but averages about 30" high. Two 10' long sections need rebuilding and occasional stones need to be reset along the length of the wall.

North and East Walls: Similar in construction to the Cotton Street wall, this wall averages about 2' high. Portions of the wall have toppled or are missing in 8 locations along the east side.

Recommendations

Centre Street Wall: Starting at the north end, reset two areas, 10' and 6' long, at the top of the wall, repair the north corner of the entrance gate and reset the granite cap, repair 6' of the south corner of the entrance gate and reset the granite cap, reset 20' at the northwest corner of Loring Park where there was a local collapse, rebuild four 10' long sections of the wall along Loring Park. Remove hard mortar and repoint with lime cement mortar where appropriate.

Cotton Street Wall: Repair and rebuild the two 10' long sections and reset the occasional toppled stones.

North and East Walls: Reset about 50 linear feet near the Rhododendron and in 6 other locations where erosion has occurred. Reset about 20 linear feet at the northeast corner.

Mound Tomb and Vault Structures

Issues

There are a number of intact tombs including four in a row added by the Proprietors of Tombs in 1803. These were sealed by the city in 1913.

After the 1990 master plan, the Fuller-Hull Tomb was examined on 19 October 1992 by Fannin-Lehner and others. Recommendations included removal of front stonework and installation of a foundation, uncovering the front portion of the arch and repair of deteriorating sections, anchoring granite elements with stainless steel dowels, sealing the junction between the brick and stonework, and carefully grading an area around the top of the tomb to decrease water flow for a projected total cost of \$7,145. Repairs have not been made to date. The brick arch is exposed above the granite face with a marble door. The brownstone table above is delaminating and has 3 broken and mortar patched legs.

Proprietors Tombs: The granite face capstone is loose and brick backup is exposed on Tomb A. There is also erosion and invasive vegetation. The Brownstone entry stone has been noted as cracked with no repair required. The granite edging of Tomb B has overturned. The right corner column of Tomb C has shifted and twisted. The granite joints in Tomb D require repointing. Tombs G and H are barely visible with a small fragment of the original buff colored mortar present. The field stone walls need localized chinking and repointing. Tomb I, the 1829 grey granite Henry Howey tomb, was noted with a local collapse at the entrance. Permanent closure with concrete was recommended with repointing of masonry. The ground surface in front of the tomb has a 18" diameter hole several feet deep.

Other Tombs: Tomb 232 has a brownstone table and brick base. There are some loose bricks and open joints. Tomb 985 was not found. Tomb 1047, constructed of brick and rough granite, needs repointing.

Recommendations

Repair the Fuller-Hull Tomb. On Tomb A remove and reset the capstone, repoint granite masonry, repair erosion and remove excess vegetation. Realign the base of Tomb B to the original position. Reset the capstone and column stone of Tomb C and repoint the side of the tomb with lime cement mortar. Repoint the granite joints of Tomb D. Remove excess vegetation from Tombs G and H, and repair, locally chink and repoint the fieldstone wall. The hole in front of Tomb I requires immediate repair. Left alone, soil deflation will continue and rainwater and snow melt will eventually undermine the structural integrity of the tomb. Small animals may also enter the tomb and disturb the remains interred therein. The 1990 master plan recommended permanent closure with concrete and repointing the masonry. Repoint the brick base of Tomb 232 and reinstall the table stone above existing masonry on a soft lime mortar bed. Repoint Tomb 1047 with lime cement mortar and repair erosion.

Doors at Mound Tombs and Vaults

Issues

At least 2 of the mound tombs had iron entrance doors which is evident by the iron hinge and latch pins that remain. They are both missing or have deteriorated to such an extent that brick masonry replacements have been installed.

Recommendations

Iron doors should be installed at these 2 tombs, using a visually similar, unobtrusive, standard black painted steel or cast iron plate, secured to the masonry with expansion bolts.

Edging of Family Plots

Issues

There are numerous granite post bases in place in northern 1834 expansion section. Erect vertical granite posts remain at 4 plots, although the connecting chains and/or rails are missing. A few top and side iron chain hooks remain.

Recommendations

Chain and/or rail barriers should be replaced with a historically appropriate material.

BUILDINGS

Issues

A hearse house, probably constructed for the 1834 addition, was located in the northwest corner of the burial ground. No remnants of the structure are visible on the surface.

Recommendations

Additional research on the hearse house may provide important information on the structure. Town documents, such as Annual Reports, may reveal the construction date, the cost of the building, the name of the contractor, or describe the building, hearse and mortuary equipment, and enumerate the cost of operating the town owned funeral equipment.

FENCES AND GATES

Chain Link Fences

Issues

The perimeter of the burial ground is enclosed with a 6' high chain link fence with top rails and center rails at the corners. The fabric and top rails are heavily rusted. H section and tubular section posts are not quite as corroded. There are two chain link vehicular gates.

Generally stable, the fence has survived reasonably well since the 1990 master plan. There is one bent top rail on the south side, cut fabric in two locations and one fabric patch, as well as high fabric in several locations because of erosion on the east side, 3 bent top rails, a rail slipped out of the coupling and a bent center rail at the northeast corner, and 2 bent top rails and 2 sections of rail off the fence on the north side. The Loring Park side has a kinked top rail, a rail out of the coupling and fabric higher than the stone base. Most of the bent top rails were caused by falling trees.

Recommendations

In the immediate future, local repairs should be made to the chain link fence, closing breaches and other deficiencies to improve security. The fence along the north and east sides should be replaced with 6' high black vinyl coated chain link fence as recommended in the 1990 master plan. This should also occur on the Cotton Street side. If possible, new fencing should be erected from outside the burial ground, and an archaeologist should monitor the activity, particularly post hole excavation.

The fence along Centre Street and Loring Park should be replaced with a 6' high solid bar stock steel picket fence. Wood would also be appropriate on this site, but transparency of the barrier is extremely important to maintain visibility of the site. The previously recommended addition of stone pillars to frame the vehicular entrance gate would be beneficial to support new matching gates. Because gate post installation work might impact potential archaeological deposits, it should be conducted under the direction of an archaeologist.

SITE AMENITIES

Signs

Issues

A 10' high free standing Massachusetts Bay Colony Tercentenary Committee informational sign, c 1930, is sited in Loring Park at the intersection of Centre and Cotton Streets. It reads "Site of Early Meeting House - The original Meeting House of the First Church in Newton was built in this burying ground in 1660. The first pastor was John Eliot, Jr., son of the Apostle to the Indians."

A metal "No Admittance After Dark - Police Take Notice" sign is located on the chain link fence near each entrance. The laminated copy of the National Register of Historic Places certificate at the pedestrian entrance is gone.

Recommendations

A site identification sign should be provided, offering visible recognition from Centre Street. More informational and interpretive signs should also be provided.

Seating and Trash Receptacles

Issues

None.

Recommendations

Do not provide seating and trash receptacles inside the burial ground.

UTILITIES

Drainage

Issues

No drainage structures were found in the site. It drains on the surface from a high point in the southeast quadrant in all directions, but primarily toward the northwest vehicular entrance. Sloped areas beneath dense trees are eroding as well as areas around individual mound tombs which are eroding toward tomb entrances. Drainage patterns are undermining some headstones and have washed out a portion of the stone wall.

Recommendations

Do not add a drainage system. Repair eroded surfaces as discussed under lawns. Regrade areas only where necessary.

Water Supply

Issues

No source of water was found inside the burial ground. A fire hydrant is located in Loring Park.

Recommendations

Water is beneficial in times of drought and would help to re-establish lawns. Consider providing hose bibbs in Loring Park outside burial ground walls.

Lighting

Issues

There are no light fixtures on the site. Street lights exist along the two perimeter streets.

Recommendations

Do not add light fixtures inside the burial ground.

PRIORITIES

High Priority

- Stone conservation including repair program, resetting and repair of slate markers and pin replacement in marbles that are visibly cracked or spalled
- Security improvements
- Repairing perimeter fences
- Repairing perimeter stone walls
- Restoration of table tombs, mound tombs and vault structures
- Cleaning and protective coating the First Settlers Monument
- Vegetative removals and pruning
- Erosion repairs
- Lawn restoration
- Identification sign placement

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base
- Family plot restoration and repair
- Restoration of iron doors at mound tombs and vaults
- Relocation of pedestrian entrance
- Fertilization of trees
- Consideration of adding water supply

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Replacement of perimeter chain link fence
- Providing a steel picket fence along Centre Street
- Informational and interpretive signs
- Additional planting

National Register Status: Determined eligible by
MHC
Current Management: Department of Public
Works Cemetery
Division
Status: Inactive
Condition: Good



Main Entrance

SPRING HILL CEMETERY

MARLBOROUGH, c. 1660

Located on the south slope of the Spring Hill neighborhood of mid to late 19th century houses, this 2.62 acre triangular site houses the oldest cemetery in the city. It is commonly understood to have been established when the town was founded in 1660. Old Common Cemetery, the town's second cemetery was established in 1706.

Spring Hill Cemetery is a small, triangular hilltop site surrounded by private dwellings. Difficult to find with a single entrance off Brown Street at the southernmost point of cemetery, the ungated opening is marked by 3 square rusticated granite posts. East of the entrance is a short section of fieldstone retaining wall with granite cap stones, the largest and highest of which is carved with the name of the cemetery and "1675." Another short rusticated granite post ends the wall.

The southern part of the cemetery contains exposed rock outcrops with a line of 4 tombs built on the crest of the hillside. Most of the graves are located on the more level northern section of site, generally arranged in rough rows, facing southwest.

The earliest marked grave is that of Capt. Edward Hutchinson of Boston, who died in 1675 as a result of wounds received during King Phillips War. After being shot and seriously injured on a mission against the Indians in Brookfield, he stopped in Marlborough on the way back to Boston where he died and was buried.

Also buried here is Elizabeth Ward, wife of William Ward, one of the early petitioners for settlement. She was the great grandmother of Col. Artemus Ward, the first Commander in Chief of the Continental Army before George Washington took charge. She died in 1690.

Based upon a 1934 survey, the cemetery contains 38 Revolutionary War and 5 Civil War veterans. The cemetery also contains many of the older settlers of Marlborough like Barnard, Bigelow, Eager, Goodale, Morse, Parmenter, Stevens, Stow, Temple, Weeks, Williams and Wood / Woods, as well as prominent 19th century citizens like John Cotting, Dr. Benjamin Hildreth, William Stetson and Solomon Weeks. The latest recorded burial here occurred in 1909.

Once noted in poor condition, the Cemetery Division, part of the Department of Public Works Grounds Management Division, has been providing weekly maintenance. The conditions have improved.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

This cemetery is generally an open site with lawn and a few deciduous trees, much like an older burying ground. There are a few trees immediately inside the entrance on the slope and another further inside the cemetery. More vegetation is located immediately on and outside the perimeter. Much of it is growing into the perimeter fence and walls.

The entrance experience has been inundated with visual clutter including parked vehicles and apparent shared yards. With the density of the neighborhood and lack of off street parking facilities, it is unlikely that the problem of parked vehicles at the entrance will end.

Recommendations

Maintain the general open landscape character of the cemetery. Provide some screen planting along the north and west edges to obscure views of the adjacent buildings. Locate the planting in such a manner that it does not conflict with known grave sites.

Create a welcoming experience at the cemetery entrance by working with the immediate abutters and improving the landscape character of the immediate area.

Planting

Issues

A few randomly spaced Maples shade the southern entrance area. An Oak is causing a tomb to come apart. Vegetative growth at the edges is primarily Maple. A large Maple on the east side is being used as a tree house with a wood ladder nailed into the tree. Tree conditions are mostly fair to poor with some dead wood. A few stumps have been left relatively high with 24-30" exposed.

Recommendations

Remove the Oak impacting the Lewis tomb. Prune dead wood from the remaining trees inside the cemetery and remove the tree house. Stumps should be cut down flush with the ground surface.

Volunteer Growth

Issues

Some new growth [Ailanthus and others] is beginning to sprout at the bases of some grave markers in the northern portion of the cemetery. Former volunteers are now growing into the perimeter fence. Japanese bamboo [knotweed] and brier is beginning to flourish in the northwest and northeast corners. A Black Locust has become established at the entrance.

Recommendations

Remove all volunteer growth.

Lawns

Issues

Once reported to be in poor condition with mostly weeds, the lawns appear regularly mowed and in fair condition. Maintenance currently consists of mowing and leaf removal.

Recommendations

Bare spots in lawn areas should be top dressed with the applicable soil amendments [limestone and fertilizer] added and then reseeded.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

A single access point is shared by pedestrians and vehicles. Everyone uses the vehicular entrance because the adjacent pedestrian entrance has a 27" clear opening with 4 granite steps. The top step has collapsed and there is no walk beyond the entrance. The site is too steep immediately inside the entrance for universal access with slopes of about 15%. Even though there are no probable burials in this area, rock outcrops indicate that it would be prohibitively expensive to make the entrance accessible.

Once beyond the mound tombs, there is gently sloping topography in the central area with slopes of 4 to 5%. These slopes are accessible but there is no access to the area other than driving on the gravel path up a steep slope to that area.

The high point of the cemetery is centrally located on the east side with a slope of about 10% at the northeast corner. The low point is at the entrance which is about 15' above and a single house lot away from Main Street. Overall there is about a 40' grade change, mostly from the entrance to the southern edge of the central part of the cemetery.

Recommendations

Consider removing the steps at the pedestrian entrance and regrading the area above to facilitate use. While a gate at this entrance might be desirable, the perimeter is unsecured so a gate would serve only a symbolic function.

To provide universal access, the vehicular access point should be kept closed for security reasons, but should be opened when permission is granted for access provided an appropriate vehicle is used. While it is not historically appropriate, consideration should be given to providing a single handicapped parking space at the top of the slope.

Vehicular Access

Issues

The single access point has an approximate 11' clear opening. An illegally parked vehicle prevented accurate measurement. Parking occurs in the cemetery during snow emergencies. The density of the neighborhood offers no or limited alternatives at these times.

A double leaf chain link gate marks the former church access. It is padlocked and no longer used because the access crosses private property today.

Recommendations

A gate should be provided to prevent unauthorized vehicular access at the single access point. Refer to the discussion under fences and gates for discussion.

Security

Issues

With no gate and only a partially fenced perimeter, the cemetery is open all the time. Only a fragment of a chain was found at the vehicular entrance.

Recommendations

A gate should be provided to prevent unauthorized vehicular access.

VANDALISM

Issues

In the Fall of 2000, two slate grave markers had been tagged with spray paint [one red, one white] and the granite stone at the east side of the Amos Lewis mound tomb facade had also been tagged with red spray paint. Previously reported bottles, broken glass and dog excrement were not observed, nor was the spray paint tagging of the table tomb of Rev. Robert Breck. ATV's were also observed inside the cemetery. These vehicles can damage the historic resources as well as compact earth surfaces which will result in a reduction of vegetative cover and ultimately erosion of soil surfaces.

Reexamination in the spring of 2001 found no paint graffiti, but empty alcohol beverage bottles, a spray paint can, a small broken trampoline and dog excrement were observed. A person walking a dog on leash was observed.

Recommendations

Continue to remove evidence of graffiti as soon as possible. Prohibit dog use for public health reasons and unauthorized vehicular access.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

The single entrance drive divides in front of the mound tombs with two routes into the rest of the site. There is no defined walk system.

Recommendations

Maintain the existing circulation system.

Steps

Issues

A set of 4 granite steps at the entrance is in poor condition and presents a public safety hazard.

Recommendations

Consider removal of the steps as described under access.

Roads

Issues

The lower part of the access drive is virtually an unpaved, granular maintenance route. It does have 2 segments of bituminous concrete paving on the slope, approximately 11' wide. The rest is lawn, probably growing over a gravel base course.

Recommendations

The lower part of the access drive should be paved to reduce the erosion potential on this steep slope.

Pavement Materials

Issues

The majority of path and drive surfaces are lawn. There are two areas of bituminous paving just inside the entrance.

Recommendations

The lower part of the access drive should be paved as described above.

GRAVE MARKERS

Headstones and Footstones

Issues

The majority of grave markers are slate with a smaller percentage of marble. A few very early ones are granite or other stone [roughly shaped granite stones with initials and a date "ST, 1698" and "WF, 1706"]. The 1700 William Ward marker is now granite with a bronze plaque and another, presumably original, stone inset below.

Many of the approximately 700 grave markers need attention. Most of the slate markers are in good condition with a few showing signs of delamination. Some have fallen over or are standing at an angle. Some are broken and a few have been repaired with deteriorating iron strapping. One slate, Williams, was observed with an iron strap around three sides of a broken marker holding it in compression. Six slate markers have been encased in concrete, all belonging to Ward family. Many small foot stones have been placed at the rear faces of larger stones, presumably to protect them and ease maintenance requirements.

Many of the marble markers have deteriorated to the point that some are illegible.

Recommendations

Several types of repair and conservation share top priority: resetting stones that are fallen or leaning; reassembling stones that are broken or separated from their bases; and removing the botanical materials. When selecting the stones to be conserved, priority should be given to markers that have legible inscriptions. Indecipherable inscriptions cannot be restored. When selecting stones to repair and reset, those that still have readable history should be done first.

Monuments

Issues

There are perhaps a dozen marble obelisks and short monumental shafts. Most are eroded from acid rain deposition. The Hildreth monument is also leaning and shifted on its base. It may have been reset after it was toppled. Another has shifted on its base. Some have exposed foundations due to settlement of the adjacent soil. Two marble obelisks have broken tops and damaged bases. One has a sloppy glue repair. Two types of lichen were observed, grey and yellow ochre as well as normal soiling.

Recommendations

Reset the Hildreth monument and others that are shifted and/or leaning. Provide earth fill at the exposed foundations of monuments. Remove biological growths and other soiling.

Table Tombs

Issues

At western end of site, two table tombs with large horizontal stone tablets mounted on granite legs mark the burial spots of Marlborough's first two ministers. The raised brownstone tablet of Rev. William Brinsmead [1660-1701], the town's first minister and first pastor of the Church of Marlborough, is broken. It has a bent bronze plaque secured to the top donated by the Gen. Joseph Badger Chapter of the DAR in 1912. The brownstone tablet of Rev. Robert Breck, second minister of the Church of Marlborough, has eroded to virtual illegibility.

Recommendations

Repair the Brinsmead table tomb and reset both on the support posts. The Breck tablet inscriptions can not be restored. A protective coating could be provided to retard the rate of loss, but would be of little benefit.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

Entrance Wall and Posts: The entrance to the cemetery is at the bottom of the hill on the south side of the cemetery. Two granite posts 15" square and 7'-6" high define a vehicle entrance. Although iron hinges are present, the gates are missing. Immediately adjacent to this entrance is a pedestrian entrance with a shorter granite post and four collapsed stone steps. The granite posts are undamaged and their vertical straightness indicates that they are well set into the ground. A low, mortared fieldstone wall makes up the remainder of the south boundary. It is covered with granite capstones and a dressed, freestanding stone with the name of the cemetery and the date 1675 cut into it. Except for a small, missing stone immediately under one of the capstones, the field stone units are intact and free of significant lateral or vertical displacement. However, the mortar is deteriorated, cracked and missing and needs to be chipped out and repointed.

Freestanding Fieldstone Wall: At the east side of the cemetery, the residential lots are deeper in length and the houses are below the level of the cemetery. The property line is defined by a freestanding wall of loosely stacked fieldstones capped with large, irregular slabs of stone. Iron or steel posts of an abandoned barbed wire fence are embedded into several of the cap stones. The stone wall is fairly intact at the northeast end but has collapsed in several places at the southeast end. Many of the stones have been scattered where collapses have occurred.

Near the center of the north side of the cemetery a short section of field stone wall is related to the limits of the adjacent private house lot. It is assumed that this wall is privately owned.

Recommendations

Entrance Wall and Posts: The entrance wall needs to be repointed. New mortar should be relatively weak and soft to have some resiliency against seasonal movements. A Type N mortar only slightly stronger than a Type O should be used. It should be noted, however, that the field stone wall is probably dry laid and the mortar simply dresses the exposed surface of the wall. Therefore, seasonal temperature and moisture movements will continue to act on the back and front of the wall and gradually affect the repointed mortar. Extensive damage will redevelop in the mortar over the next 15 to 20 years unless the joints are maintained on an annual or biannual basis.

Freestanding Fieldstone Wall: The deteriorating east property line wall needs to be reassembled where it has collapsed and scattered. Collapsed sections of the wall can be reassembled by collecting and stacking the scattered fieldstones. The stones in the intact sections do not appear to be systematically arranged. That is, they were not carefully set to create a livestock or boundary fence but instead appear to be a row of deposited stones collected from adjacent fields. Although the fieldstones could be reassembled by hand labor, the capstones will require machine assistance to lift them back into place.

Mound Tomb and Vault Structures

Issues

There are four barrel vaulted mound tombs dating from the 1830s and 1840s at the crest of the slope above the cemetery entrance. Although they differ in detail, they are about the same size and are arranged in a row side by side. The facade walls generally consist of a stone panel on each side of a door and a long lintel panel crossing over the side panels and door. The stone panels are large, very rough, flat, unadorned slabs approximately 8 inches thick. They are dressed only on their exposed faces and edges. The roughly textured dressing was done with a hand held bush hammer or tooth ax. Most of the panels appear to be dry laid on lead sheets although mortar is present at one of the tombs. Additional stone posts are also present adjacent to the side panels. The vaults probably have walls built of field or rough cut stones and roofs of stone slabs. Foundations are probably a shallow arrangement of stones. The earth mounds are very steep and unable to retain vegetation. They are eroding along the vault walls and behind the facades.

The 1849 Amos Lewis tomb is located furthest east. The facade is composed of large granite slabs with a rusted iron door. Two of the side stones have shifted. The top door hinge has been welded, and there is a galvanized steel closure at a former hasp.

Next is the 1839 Parmenter tomb. An Oak tree immediately behind this large granite slab facade is pushing it forward, displacing some of the stonework. The tomb has some inscribed marble insets and a later, better dressed, inscribed marble pediment stone on top of the lintel. A stone currently placed in front of the door may have once stood at the top of the facade, as there is an iron dowel and a dowel hole on the top of the pediment stone. The tomb also has a granite door with iron hinges.

The third tomb has no name on the facade. The large granite slabs forming the facade are leaning forward and have created a separation from the back construction. The tomb has a deteriorated accretion of mortar, brick and stones surmounting the lintel in the form of a semicircular cap. It is not clear why this was done or what it expresses. If further research does not establish its historical significance, it should be removed. The tomb also has a granite door with iron hinges that are causing rust stains.

The westernmost tomb also has no name. The facade is made up of large granite slabs and a cast concrete door. Some lead flashing was observed. The top and 2 side stones have shifted and erosion is evident at the sides of the facade.

Recommendations

The stone units for the mound tombs need to be reset. The tombs are more or less intact but the relatively lightweight, individual components have shifted about over time so that their overall appearance is awry. In order to rehabilitate the tombs, the individual components, including foundation stones, should be dismantled and reassembled in full beds of mortar. Backfill should be free draining materials. Restore the earth mounds to correct erosion and restore the vegetative cover.

Edging of Family Plots

Issues

Only one family plot, Goodale, has edging. The long lengths of 8" wide granite have shifted and are out of alignment. Settlement has exposed more than the original 12" exposure on the outside face.

Recommendations

This family plot edging should be reset. The ground under and behind any reset stone should be good draining material. Provide earth fill to bring the soil to the proper level outside the edging.

FENCES AND GATES

Iron Fences and Gates

Issues

The former gate at the vehicular entrance may have been wood, iron or a combination of each. A granite threshold separates two 8' tall, 15" square granite gate posts that have iron hinge pins and a remnant of rusted chain. The adjacent pedestrian entrance has a 5' high granite post, but no evidence of hinge pins.

Recommendations

Replace the vehicular entrance gate based upon documentary evidence of the former gate.

Chain Link Fences

Issues

The perimeter is lined with a chain link fence along the west, north and the south end of the east side. The fence is generally rusted with some damaged areas, mostly bent top rails. The fence is serviceable in that it is generally stable and functional.

The west and north sides of the cemetery are defined by an old chain link fence along the rear property lines of small residential lots. Although the chain linking is more or less intact, several top rails are bent, missing or broken. The rails and posts have no protective coating and are rust stained. At the north side, at least two of the abutting property owners have raised the level of their lots a foot or two by backfilling against the fence. Moisture in the earth in direct contact with the base of the fence will shorten its life span.

Rusted iron posts along a portion of the east wall suggest that there was once a barbed wire fence there.

Recommendations

Repair damaged portion of the fence and continue to monitor the fence to maintain stability. Consider adding a new fence along the east side to complete the perimeter enclosure. Work with abutters on the north side to remove fill against the fence.

Interior Fences and Gates at Family Plots

Issues

A semicircle of rusted iron picket fence with a tulip motif is located in front of the 1839 Parmenter tomb facade. All of the picket tops are missing as well as 13 of 26 round pickets. The top horizontal rail is bent and part of the bottom rail is buried.

A burial plot with an illegible marble obelisk on a shallow mound has 5 rough cut granite posts that supported a former fence.

Recommendations

Restore the fence at the Parmenter tomb. If documentary evidence can be found concerning the appearance of the fence at the marble obelisk, consideration should be given to replacing it.

SITE AMENITIES

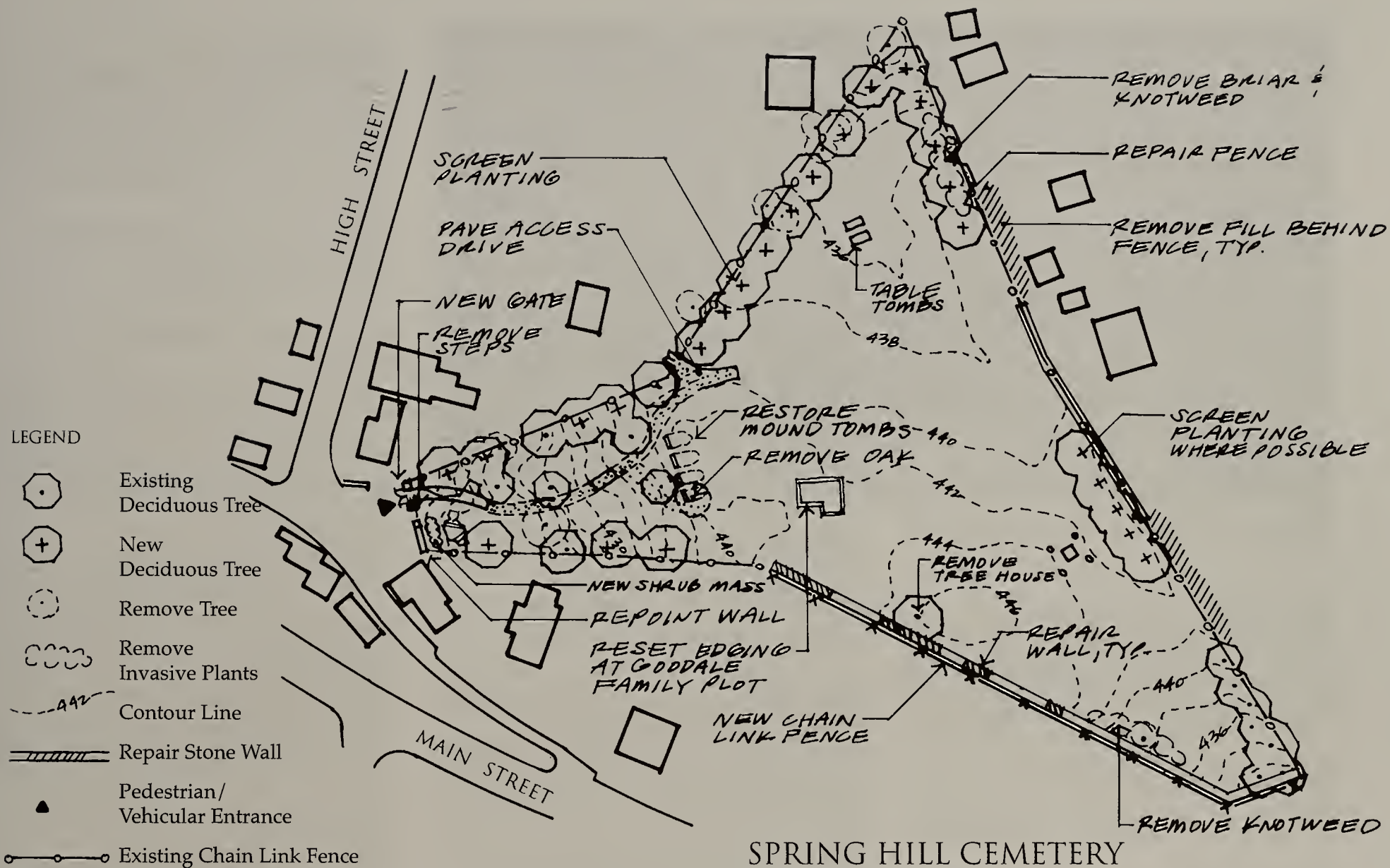
Signs

Issues

The first apparent sign is a green "Do Not Block Driveway" highway type metal sign mounted on one of the granite entrance posts. The identification sign, "Spring Hill Cemetery - 1675," is carved into the granite cap stone on a short section of rough cut stone retaining wall immediately east of the entrance. It is somewhat concealed by volunteer vegetation and parked cars. No informational signs were found.

Recommendations

Provide a more visible identification sign and add regulatory signs. As this is the oldest burial ground in town, some interpretive signs with historic background would be beneficial. In addition, directional signs are needed to help most visitors find the site.



SPRING HILL CEMETERY PRESERVATION PLAN MARLBOROUGH, MASSACHUSETTS

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
SUZANNE SPENCER-WOOD, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

NORTH

MAY 2001
1" = 100'

Trash Receptacles and Seating

Issues

No amenities of this type exist.

Recommendations

Do not provide benches or trash receptacles.

UTILITIES

Drainage

Issues

The site slopes pretty much in all directions from the high point and all drainage occurs on the surface. No storm drainage structures were observed.

Recommendations

No changes are recommended.

Water Supply

Issues

No source of water is available inside the cemetery.

Recommendations

While it may be desirable to have a water source for lawns, the cost of providing a supply line through areas of shallow rock outcrops may well be prohibitively expensive. Do not add a source of water at this time.

Lighting

Issues

No light fixtures were found inside the cemetery.

Recommendations

Do not provide light fixtures inside the cemetery.

PRIORITIES

High Priority

- Remove Oak impacting tomb.
- Remove trees with large cavities, leaning into the cemetery, drives or grave markers.
- Remove volunteer growth.
- Tree replacements.
- Lawn repairs.
- Provide gate at vehicular entry.
- Remove steps at pedestrian entry.
- Pave lower part of access drive.
- Restore grave markers that present public safety hazards or are structurally unsound.
- Replace dowels in multipart stones that are visibly cracked or spalled.
- Conserve historically significant marble markers that are in danger of becoming illegible.
- Slate marker resetting and repairs.
- Broken stone repairs if the inscriptions are legible and at least 75% of the stone is available.
- Repair mound tombs.
- Repair and reset table tombs.
- Earth fill at exposed monument bases.
- Identification and regulatory signs.

Medium Priority

- Remove trees with large cavities, leaning away from drives and grave markers.
- Replace dowels in multipart stones with visible metal stains at the junction between stones.
- Clean legible markers.
- Repoint entry wall.
- Repair perimeter chain link fence.
- Provide chain link fence along east edge.
- Restore fence at Parmenter tomb.

Low Priority

- Prune trees with a small amount of dead wood and branches, and trees protected from the winds in close to the edge or other trees.
- Reset markers that have shifted or are leaning.
- Reevaluate and conserve marble markers that are currently in satisfactory condition, as necessary.
- Provide screen planting along the edges.
- Reset family plot edging.
- Provide interpretive signs.

PRIORITIZED COST ESTIMATES

High Priority

Tree removals	\$1,500
Tree pruning and fertilization	2,000
Tree replacements	2,500
Lawn repairs	10,000
Remove steps at pedestrian entrance	500
Gate at vehicular entry	5,000
Pave drive	6,000
Repair mound tombs	40,000
Identification and regulatory signs	<u>5,000</u>
	72,500

Medium Priority

Tree removals	4,000
Repoint entry wall	1,000
Repair chain link fence	1,000
New chain link fence	8,000
Restore Parmenter tomb fence	<u>6,000</u>
	20,000

Low Priority

Screen planting	6,000
Reassemble east wall	10,000
Reset family plot edging	2,000
Interpretive signs	<u>10,000</u>
	28,000

Costs associated with grave marker work have not been included. Refer to the General Recommendations section for approximate costs of various types of repair.

National Register Status: *Inventoried,
Recommended Eligible*
Current Management: *Cemetery Commission*
Status: *Active*
Condition: *Good*



RIVERSIDE CEMETERY

General view from south
SUNDERLAND, 1714

At the edge of the Connecticut River and framed on the north, east and south with an active agricultural setting, this 5.9 acre active cemetery is a hidden treasure. Set back from River Road, Route 47, it is reached by the single lane Cemetery Road. A paved road encircles the long rectangular shaped cemetery, separating it into five sections formed by the original cemetery plot [1714] and later expansions [1832, 1867, 1887 and 1907]. The gently sloping terrain is actively frequented by town residents, and used for walking, jogging and occasional fishing from the riverbank at the northwest corner.

Sunderland was incorporated in 1718, culminating 4 years of resettlement as the impact of the Indian Wars diminished. The cemetery was laid out in 1714 by the original Proprietors of the town of Sunderland along with the original 40 house lots on Main Street. As such it was associated with the first church established in Sunderland [First Congregational Parish] which continues as the Congregational Church. Ownership of the burial ground was associated with the church. It was officially first referred to as Riverside Cemetery c. 1875, when Cemetery Road was formally laid out and improved, replacing an informal path. A fence was installed around the cemetery at the same time. It was named Riverside Cemetery in 1879.

Ownership and maintenance was taken over by the town in 1884. The first hearse was used in 1870. It served the town until 1903.

The cemetery contains the graves of the original 40 proprietors including Ensign Simon Cooley 1746, Benjamin Graves 1756, Thomas Hovey 1728, Deacon Joseph Field 1754 and William Scott 1759 as well as early settlers and Revolutionary War soldiers.

Its location along on the banks of the Connecticut River offers potential for prehistoric archaeological sites, such as Native American planting fields located to exploit nutrient rich flood deposits from the river.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

Hollis D. Graves, a cemetery commission member, began landscape improvements with ornamental trees and shrubs through the 1880's. This work was further enhanced by the Sunderland Women's Club in 1934 which marked and tagged trees with their names. The destructive forces of nature in 1936 and 1938 may have diminished the impact of these improvements. Today the cemetery presents a well maintained appearance with trees randomly distributed throughout with a 78% deciduous and 22% evergreen composition. A row of Spruce along the river edge denies open views to the river and conceals an unkempt river edge.

Recommendations

The general distribution and composition of tree cover should be maintained with some supplemental planting, particularly in the newer areas as well as along the east perimeter. Additional planting in the oldest one or two sections should be discouraged so that it presents a more appropriate historic image. Selective thinning should occur in limited areas of the river edge to facilitate views both to the Connecticut River and Mount Sugarloaf State Reservation to the west and northwest.

Planting

Issues

Plant material inside the developed area of the cemetery includes large deciduous shade trees [24 Maple, 11 Oak, 3 White Birch, 1 Elm and 1 Shagbark Hickory], small deciduous trees [10 Flowering Dogwood, 2 Japanese Maple and 1 Eastern Redbud], evergreen trees [5 Spruce, 3 Blue Spruce, 3 Cedar, 2 Fir and 2 White Pine], shrubs [Azalea, Lilac and Yew] and bulbs [not counting the undeveloped area along the river edge and the undeveloped south side]. The most significant tree population includes 35% Maple and 16% Oak. Many of the older Maples have cavities and some dead wood, particularly along the east side. Several large trees shade the oldest part of the cemetery, causing loss of ground cover and promoting moss growth. Arborist work has been provided each December for the past five years in the amount of \$1,500 to 2,000 each year.

Recommendations

A certified Arborist should further evaluate all trees, particularly the Maples on the east side, with a Hazardous Tree Evaluation. Where possible, heavy equipment used for pruning and removals should be located on paved surfaces away from the soft surfaces of the cemetery.

Volunteer Growth

Issues

In general volunteer growth is under control except at the north perimeter and along the river edge. The south side understory has been removed in anticipation of expansion.

Recommendations

Remove volunteer growth at the north perimeter and along the river edge.

Lawns

Issues

With a few bare spots and a large area of moss on west side in the north of the road section, lawns are generally in good condition for the level of care that they receive. They are cut only, not watered or fertilized. Volunteers provide leaf raking and clean up each spring.

Recommendations

Repair lawns.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Although the site slopes gently, there are no paved paths inside the cemetery, which limits universal access. Pedestrians rely on sharing vehicular access routes. Parking occurs on or adjacent to the one lane drives inside the cemetery.

Recommendations

No changes are recommended for pedestrian access. Universal access should continue to rely of vehicular access routes.

Vehicular Access

Issues

There is one point of vehicular access, a single lane paved Cemetery Road, from River Road.

Recommendations

This appears sufficient for the visitation requirements and no changes are recommended.

Security

Issues

The site is open. The access drive is not gated. Surveillance is provided by neighbors and the occasional police patrol.

Recommendations

Security is apparently not an issue on this property and improved measures should not be pursued at this time.

VANDALISM

Issues

There is reportedly little vandalism, although about 5 years ago the shed was broken into and some equipment was stolen. Little of the impacts of vandalism are evident. The causes of toppled and broken stones, most of which appear to have been in that condition for some time, could be numerous. Cemetery debris, including plastic flowers and seasonal decorations, has been deposited over the river bank bordering the cemetery on the west.

Recommendations

Vandalism is not a significant problem and no changes are recommended except for clean up of the riverbank.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

A one lane paved road, approximately 10' wide, encircles the perimeter of the cemetery and east-west one lane connecting drives divide it into sections. There is no apparent path system.

Recommendations

No changes to the circulation system are recommended at this time.

Pavement Materials

Issues

Bituminous concrete is the only pavement material here and it is in fair condition. The surface is in fair condition, with some cracking and unraveling at the edges.

Recommendations

Assuming the site is not snow plowed, paved surfaces should be resurfaced within 5 years with a chip sealed bituminous pavement to present a character more in keeping with the historic nature of the cemetery. Road improvements involving excavation should be undertaken only after archaeologists have tested the impact area to determine whether artifacts, archaeological features or grave shafts would be impacted during improvements.

GRAVE MARKERS

Headstones and Footstones

Issues

The collection of about 600 markers includes the full range of stone types and shapes from the early 18th to late 20th century, including slate foot stones, sandstone and limestone mid-19th century markers, multi-stoned Victorian marble monuments and two part polished granite markers. Some of the 18th century slate stones are by carvers with distinguishable styles. There are some also primitive markers. The earliest extant stone dates to 1722. Several of the slates have been repaired with iron straps, others have been set flush in cement. While many of the slates are upright and in good condition, a few markers are broken and some are leaning or toppled. Repairs are made when budget allows. Marble monuments have eroded to varying degrees of legibility, and some of the coarser grained stones are badly sugaring. Grey/green biological growths are found on stones of all types throughout the cemetery.

Many of the markers in the cemetery are surrounded with decorative plantings, statues, rosary beads and perpetual candles. A modern polished granite marker displays personal photos in decorative medallions. Although graves are oriented head to the west according to Christian tradition, several monuments in the northernmost plot are aligned north-south, perhaps to facilitate identification from the paved road. Several marble monuments mark the location of family plots, and a large sandstone mill wheel distinguishes the grave of a Vietnam War Veteran.

Recommendations

A stone by stone inventory should be completed of the entire cemetery, beginning with the oldest sections. Tilted and toppled stones should be reset in gravel, beginning with toppled slate markers. No attempt should be made to reassemble the broken slate pieces in situ. Pieces of broken slates should be stored in a sheltered location, preferably inside. No attempt should be made to remove or reverse old repairs to slate markers, as removal will damage the stones. Depending on the condition, consideration should be given to reassembling broken marble markers.

Minor biological growth can be carefully removed from stones throughout the cemetery if resources are available. Removing surface biological growths will improve the appearance of the stones and slow down weathering if done gently.

Extant statuary, vegetation and perpetual lights provide examples of contemporary memorialization of the dead. They should be very carefully protected so that in time they will become part of the archaeological record of the cemetery.

Table Tombs

Issues

The cemetery has one table tomb, the horizontal marble slab of Rev. Joseph Ashley that is exhibiting some delamination. The tomb has 5 marble post legs. The table slab is in somewhat precarious position because 3 of the posts are twisted, presumably because of flood waters.

Recommendations

Reset the table tomb with the posts set square to the top slab. Consider protective coating for the table portion.

114 - *Sunderland*

Monuments

Issues

There are a number of large and small obelisks made of a variety of materials including brownstone, marble and granite. Some are late 1840's architectural monuments like the 1847 broken column, 1860's obelisks, 1867 Gothic spire and the undated Hubbard Monument with a human figure. Settlement is evident at some of these monuments, exposing stone foundations. Several are not set square on their bases, again presumably because of flood damage.

Recommendations

Reset leaning and skewed monuments and obelisks to a vertical and square position on appropriate footings. Provide earth fill to cover exposed stone rubble foundations to prevent undermining and destabilization. Soils should not be removed from around the bases of monuments. Footstones and contemporary memorials should be documented and recorded with reference to a site datum prior to addition of material to the ground surface.

BUILDINGS

Issues

A small wood equipment shed, approximately 12'x12', is located in the southwest corner, in the newest area of the cemetery. It has white painted vertical wood siding and black asphalt roof shingles.

Recommendations

This structure is apparently adequate for the needs of the cemetery and no changes are recommended.

FENCES AND GATES

Wood Fences

Issues

A single row of 13 rough hewn granite posts, about 3.5 feet high, separates the burial ground from fields to the north and marks the boundary. Each of the posts has two rusted bolts projecting toward the cemetery. The remainder of the cemetery edge is unfenced. A picket fence was installed around the cemetery in 1875. The fence was extended with the 1887 and 1907 purchases. It was removed in 1952 and partially replaced with a border of shrubs. Most of the shrubs are gone now.

There are also 3 sections of two rail weathered wood fence near the shed defining the corners of the road. The fence is in fair to good condition.

Recommendations

Consideration should be given to restoring the picket fence, particularly along the north edge. This would help protect the granite posts from disappearing and restore a part of the historic visual character of the cemetery.

SITE AMENITIES

Signs

Issues

The entrance at the intersection of River Road and Cemetery Road has an identification sign from the first week of May to the last week of November each year. It is stored in the shed for the winter. The sign has a simple horizontal rectangular shape with a shallow peaked top. Painted white with black lettering, the wood sign is supported on two black painted square steel supports. There are no informational or interpretive signs.

CONNECTICUT RIVER

SELECTIVE THINNING
OF WOODS FOR VIEWS

REMOVE SPRUCE

OAK/MAPLE WOODS

RESTORE
PICKET
FENCE

PINE
WOODS

FUTURE
ROAD

RIVERBANK
ROAD

MOSS

RESTORE
TABLE
TOMB

RESURFACE
ROADS, TYP.

TOOL
SHED

FP

H₂O

WOOD FENCES

EAST CEMETERY ROAD

H₂O

FUTURE
EXPANSION

1990
ADDITION

NEW
SECTION

OLD
SECTION

NORTH OF THE
ROAD SECTION

NORTH SECTION

LEGEND



Existing Evergreen/
Deciduous Tree

Property Line



Remove Existing
Tree

H₂O • Water Supply



New Tree

FP • Flagpole



NORTH

RIVERSIDE CEMETERY PRESERVATION PLAN SUNDERLAND, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

NOVEMBER 1999
1" = 100'

Recommendations

It would be beneficial to add informational and / or interpretive signs.

Trash Receptacles and Seating

Issues

There are no trash receptacles, seating or other amenities

Recommendations

While benches are not part of the historic plan, they would be beneficial in terms of taking advantage of the view and increasing visitation. The addition of benches in terms of style and location must be done in such a manner so as not to detract from the primary experience of the cemetery. The addition of picnic facilities should be discouraged, not only because of the sacred nature of the site, but because of the increased probability of trash, misuse of the property and vandalism.

Flagpoles

Issues

A single 25' high steel flagpole is located near the shed. Some rust is evident on the white painted surface.

Recommendations

Remove rust and repaint the flagpole.

UTILITIES

Drainage

Issues

No drainage structures are evident. The site drains on the surface with a gentle slope toward the east, away from the Connecticut River. The 1980 Flood Insurance Rate Map by U.S. Department of Housing and Urban Development places the site in zone B, above the 100 year flood level, but within the 500 year flood zone. In the 1936 floods, the river rose 5' above the cemetery and left 5' of silt which had to be removed. In 1938, the hurricane and flood damage impacted the trees, and many had to be removed and replaced or pruned. Some loss of grave markers is assumed during these floods.

Recommendations

No changes are recommended. Any efforts to improve vegetative ground cover or correct surface runoff and erosion should consist of loam added to the ground surface.

Water Supply

Issues

Water spigots are located at the southeast corner near the shed and at the northeast corner.

Recommendations

Water has numerous uses in a cemetery. The water service should be maintained. Archaeological testing should precede repair or maintenance of water pipes.

Lighting

Issues

There are no light fixtures or electric service inside the cemetery.

Recommendations

No lighting is recommended.

PRIORITIES

High Priority

- Grave marker inventory
- Stone conservation including resetting and repair of slate markers and pin replacement in marbles that are visibly cracked or spalled
- Table tomb restoration
- Vegetative removals and pruning
- Lawn repairs

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base
- Monument restoration
- Road resurfacing
- Fertilization of trees

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Picket fence restoration
- Informational and interpretive signs
- Additional planting

National Register Status: Listed
Current Management: Department of Public
Works
Status: Active
Condition: Fair



Circular sunken dell

PROSPECT HILL CEMETERY

MILLIS, c. 1714

Originally known as the Old Churchyard Cemetery, Prospect Hill Cemetery is adjacent to the former site of the first meeting house that was built in 1714 when Millis was part of Medway. Fronting on Auburn Street, Prospect Hill Cemetery is centrally located a few blocks west of the town center in an area once called Bare Hill [God's Acre].

Only the older historic portion of the cemetery, east of Veterans Way, was examined which encompasses about 7.5 of the total 18.26 acres. The oldest part, with graves dating back to the early 1700s, is located at the top of the hill. Veterans of many wars are buried here including Reverend Nathan Buckman, 1703-1795, of the First Church of Christ of Medway, who was also a soldier in both the French and Indian, and Revolutionary Wars. A large boulder monument in the southwest corner of the cemetery provides commemoration, although his grave is located elsewhere on the grounds.

The cemetery expanded during the rural cemetery movement and contains elements characteristic of that style of cemetery design. With significant topography and vegetation, drives wind through steep hills and sunken areas including a sunken circular dell and a horseshoe shaped dell. The earliest marker found in the former area was dated 1845, which is an appropriate date for the improvement. The expansion area also contains the grey granite monument of Charles Wesley Emerson, 1837-1908, founder of Emerson College.

One person, whose responsibilities also include burials, currently maintains the entire site. It was formerly maintained by 2 people.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The overall character is one of steep wooded slopes, terraced areas with severe side slopes and some relatively level areas. Many areas are heavily vegetated, primarily with deciduous shade trees. There are 4 areas where extensive stands of evergreen trees add a distinctive character.

Recommendations

In general, retain the 4 stands of evergreen trees and let large deciduous shade trees predominate elsewhere. Reduce the amount of trees at the high point, in the oldest area of the cemetery, both to protect the historic resources and to provide a historically more appropriate image. Provide shade trees along Auburn Street and Veterans Way.

Steeply terraced plots



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Planting

Issues

The cemetery contains a variety of plant species which is generally appropriate for the style of the majority of the older part of the cemetery. Trees represented include White Ash, American Beech, Red Maple, Sugar Maple, Black Oak, Pin Oak, Poplar, Crabapple, Star Magnolia, Red Cedar, Falsecypress, Fir, Canadian Hemlock, White Pine and Blue Spruce. Shrubs include Forsythia, Hydrangea, Pieris and Spirea. It was reported that over 200 shrubs were removed in recent years and that deer damage had eliminated the Rhododendron population.

In the developed area, 51 trees were examined as well as 3 groves of evergreen trees. Not counting the latter, almost 70% of the vegetation is deciduous. The largest trees were 40" DBH Red and Sugar Maples.

Most of the trees were mature and in poor to fair condition. Some are dying and a significant amount of dead wood was observed on the ground. It is recommended that 15 trees be removed, or about 30% of those examined, including a dead White Ash, an 80% dead Red Maple, a 75% dead Black Oak and a 50% dead Sugar Maple. There are also 2 Blue Spruce with over 50% decline. A White Pine has base decay and a crack in the main stem. A Red and a Sugar Maple have decay in the upper stem and another Sugar Maple has basal decay as well as 75% overall decay.

Recommendations

Remove hazardous trees. Recommendations for support systems to help prolong the life of a tree that is still in fairly good condition generally fall into the highest priority, depending on location. Many of the trees have main multistem branches with either decay or natural structural defects, which may fail under adverse environmental conditions. Support cables help prevent large branch loss. Treat Hemlocks for wooly adelgid.

Soil samples are always recommended before decisions are made to apply fertilizer to any plants in the landscape to avoid excessive use of chemical fertilizers or lime and spending needless funds. Lime and fertilizer should be applied to all the trees as recommended by soil analysis. The soil texture is sandy to gravel. Amending the soil with organic matter will help maintain nutrients and moisture.

Root collars or root flares are often damaged by lawn mowers. Naturally occurring girdling roots can slowly cause decline in a tree. All soil and mulch should be kept at least one foot from tree root collars so as not to encourage circling roots or decay organisms that can damage root collars.

Lawns

Issues

Lawn areas are in fair to poor condition depending upon location. Heavy moss development is present in some areas, particularly on north facing slopes. Many of the very steep banks also exhibit varying degrees of erosion.

Recommendations

Lawn areas should be top dressed with the applicable soil amendments added and then reseeded. Consideration should be given to easing the severity of steep slopes to reduce erosion and maintenance requirements.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Most pedestrian access points are shared with vehicular drives. One pedestrian access point, linking the old and new parts of the cemetery, is provided from Veterans Way by way of a set of stone steps.

Because of the steep topography in many areas of the site, the cemetery is generally considered accessible by vehicle only. The few relatively level areas could be considered accessible except for the surface materials.

Recommendations

No changes are recommended. Universal access should continue to rely on vehicular access routes.

Vehicular Access

Issues

There are 3 points of vehicular access into the cemetery, one from Auburn Road and two from Veterans Way. Vehicular access varies somewhat in width with a 15'-4" clear opening at the east entrance, 14'-4" at the southwest and 14'-2" at the northwest.

Recommendations

No changes are recommended.

Security

Issues

The cemetery is officially open from 8-5 during Eastern Standard Time and 8-9 during Eastern Daylight Time. Because it is not locked, it is open at all times for practical purposes. There have been some recent thefts, including the sculptural part of a marble marker, some flower pots and a bird bath.

Recommendations

To reduce the impacts of theft, some security measures should be undertaken like providing gates or other devices at vehicular access points to close the cemetery during off hours and increased police patrols during evening hours.

VANDALISM

Issues

While there was no evidence of recent vandalism, it was reported that most of the damage to grave markers has been caused by falling trees.

Recommendations

No changes are recommended.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

The basic circulation system has a curvilinear layout working with the topography. Some steep connections have been discontinued.

Interior drives tend to be narrow with paved widths varying from 9.5 to 12.5'. Veterans Way is about 24' wide.

Recommendations

Maintain the existing circulation system.

Marker vandalized by theft



Steps

Issues

There are several sets of stone steps in the historic section. The circular dell has 2 access points with steps and the horseshoe dell has one with 3 sets of steps [2, 3 and 2 risers]. The stair link between the old and new sections of the cemetery has 14 risers. Many of these old stone steps have suffered settlement and some have rotated out of position making them a public safety hazard. There is also a metal stair to the top of the mound at the Holbrook lot.

Stair materials vary in the newer section with stone, concrete and galvanized steel handrails.

Recommendations

Remove and reset the steps that have moved out of position to establish a uniform riser height within each set of steps. Provide a free draining foundation of suitable depth to reduce the effects of frost heaves.

Pavement Materials

Issues

Originally gravel, the drives in the older section of the cemetery were paved with bituminous concrete in the mid 1980s for maintenance reasons [steep slopes]. They are still in relatively good condition for their age. Some of the less important drives are now maintained in lawn. All walk surfaces are grass.

The newer section of the cemetery has gravel drives. They are repaired at least twice a year because of the maintenance requirements with steep slopes.

Recommendations

Maintain the current paved drives in bituminous concrete. Resurfacing will be required in the not too distant future. Maintain walks in grass.

120 - Millis

GRAVE MARKERS

Headstones and Footstones

Issues

There are approximately 700 grave markers in the older portion of the cemetery, ranging from the early 18th through the early 20th century, and represented by slate, marble and granite markers as well as some brownstone and zinc. Most of the older stones, primarily slate, are on the top of the hill where rows of markers face each other.

Numerous stones have been broken, or have toppled and been reset, using methods or materials not recommended today. Repairs observed included many adhesive repairs and at least 12 slate markers encased in concrete, like the 1724 David Richardson marker. The latter is not a recommended repair technique for slate or marble. The Julia Ann Hunting marker is in poor condition with a hard gray cement repair. Iron strap repairs reputedly occurred after the 1938 hurricane when over 100 trees were lost in the old section. At least 4 slate markers had iron straps and bolts, and another had both bronze and iron straps and bolts. Several slate markers are falling apart, due to the severe rusting of these early iron repairs. Cement repairs on marble tablets are detrimental because cement is harder than marble.

Stephen and Ruth Harding are marked by a double tablet with a good adhesive repair of a break, but with a bright yellow lichen. At this point it is easily removed by gentle scraping with a wood sculptor's tool. Similar work would benefit the row of Clair family slate tablets. The inscriptions may be difficult to read, but the stone is basically sound.

Among the rest of the markers, especially the marble and brownstone grave markers, the primary problem is one of botanical growths. Lichen of several varieties including red, yellow, and green-gray as well as black mildew/fungal growths and ordinary moss closer to the ground cover part or all of nearly 50% of the markers. Such growths are damaging in two ways: they invade the granular stone material and loosen it so that when they are removed they often take a bit of the stone off too; and they hold moisture so that seasonal freeze-thaw cycles loosen more of a stone's surface. That in turn can eradicate inscriptions and art work.

On brownstone, the problem condition is a loosening of layers, called spalling. The brownstone Allen grave marker is badly spalled on the back side and almost entirely covered with lichen. The spalling is so severe on this notable marker that it should be a high priority for conservation.

Typical of a number of the white and light gray marble markers is staining from corroded bronze dowels that serve to anchor and support individual stone units joined together. The stain indicates water penetration is corroding the dowels. For example, the white marble Cutler marker is set on a granite base and has copper stains from dowels that join the stone and the base, and a hard black gypsum crust under the urn on the back. The marble is sugaring and the granite is also in very poor condition. Like the Allen marker, this marker should be high on the list for conservation treatment. The 1880 William Adams marker also has a virulent green copper stain at its white marble base.

An interesting use of pink granite, the stele shape, marks the burial of a member of the Heath family. It has names on the front and a simple elegant Arts and Crafts period design cut on the back side. It demonstrates the durability of close grained granite. Granite, especially polished granite, is the most resistant to deterioration of any type of grave marker.

Of particular artistic interest are the grave markers for Captain Moses Harding [d. 1826] and Timothy Ballard [d. 1827]. The Harding stone has a very architectural incised design at the top, showing an open space of some sort with a checkerboard floor and columns, in perspective, and including Masonic symbols. The Ballard stone is a 5'-9" tall stele, and the carver has signed his surname, "Ellis". Another interesting stone is a 1930 copy of an original 1754 grave marker, which was probably slate. The slate marker for Horatio Jones and several others are unusual in the inscription style is of shadowed letters. These markers are in excellent condition at present, and should be monitored to insure that they continue to weather well.

A broken slate marker has had some darkening of the crudely lettered inscription: "Eleazar Adams. . . deceased . . . Africa. . ." In that this may be the marker of a slave's grave that may have been dated c1719, some special effort should be made to identify this burial. It is preferable not to darken incised lettering, even for legibility.

Nearly all of the stones set horizontally will soon be covered by earth and grass. It will be necessary to reset them so that they do not disappear.

Although zinc markers were available in the mid and late 19th century, they were not widely used in New England. Only a few exist here. The Bickford marker has a missing screw at the top of the front panel. Corrosion of the iron armature is evident with rust showing on the marker base.

Iron flag holders mark the burial sites of those who fought in the Revolution, Civil War, Spanish American War, and, most unusual, members of the Patrons of Husbandry, better known as the Grange. These castings are especially numerous and various here. Many have rusted.

Recommendations

Older repairs using iron that has now rusted should be redone. Older repairs using cement mortars or other materials that have not adversely affected the markers should be left alone. The Angeline and William Ware marker, for example, is a marble tablet set into concrete, evidently some decades ago as indicated by erosion of the concrete. Nevertheless, this has served to preserve at least the text surface of the marble. The Partridge stone has had similar treatment. Although not a method of treatment recommended now, these stones should be left alone. In the case of the William Bacon marker, now tilted, the marble tablet has been mortared together at the break and set into a brownstone base. This stone, like others so repaired, should not be reset.

Reset markers so that there is a sufficiently stable base below grade and full inscriptions are exposed above grade.

Survey and identify markers that have legible inscriptions but are eroding due to soiling or botanical growth. Markers that are still legible but rapidly eroding should be designated for conservatorial treatment as soon as possible. Markers with entirely illegible inscriptions need not be treated, at least not in the initial rounds of treatment.

Remove lichen and other botanical growths with the careful application of a biocide to kill the lichen, followed by gentle removal of the plant growth when it is dead. That work is best done by an experienced conservator. Because the potential for irreversible damage is great, cleaning historic grave markers should be done only under the supervision of an experienced conservator. Some conservators give instruction and supervision so that volunteers can be trained to do the work with minimal damage to the stones.

Record and photographically document the iron flag holders. Then carefully conserve and reset them soon. Photographically document the Eleazar Adams marker.



Exposed foundation of Emerson monument

Monuments

Issues

The Charles Wesley Emerson granite monument is located on what is called Emerson Hill. Green patinated bronze feet of former torchiers flank the sides of the monument. They reportedly held stone candles that glowed in the moonlight. Removed because of vandalism, they are now housed at Emerson College. The monument foundation is being undermined. There is lichen at the top of the stone and soiling at the base.

In the southeast corner of the cemetery, the Col. George H. Holbrook marble obelisk had been toppled in a storm. It has been reassembled although a few sections just below the top were omitted because the equipment necessary for complete reassembly was not available. These pieces are currently stored in the maintenance building.

This cemetery also has many tall columnar markers, including obelisks, and round and square columns. Heights range from 3 to 6', not counting the plinths or bases. This type of marker is vulnerable to breakage from toppling or tilting due to settlement of the subsurface soils. Settlement and soil erosion has affected 25 to 40% of the stones here, although tilting or toppling has not yet occurred at all washed out bases. Several others have various types of damage. The Daniels obelisk has had some readhesion of a break.

The octagonal brownstone Bullen obelisk is nearly covered with various species of lichen. The marble front [death dates of 1872 and 1873] is nearly illegible but can be saved if conserved soon. The Handel obelisk and 9 associated small stones all need to be cleaned and conserved. Other marble obelisks have gray lichen growths. A fine marble obelisk [Lovell] is in perilous condition and represents marble that can be preserved if the work is done within the next 3 years.

Recommendations

At all monuments where foundations are being undermined, earth fill should be provided at the base to prevent future damage. At the Emerson monument, clean the lichen from the top and soiling at the base. Remove biological growths as recommended for grave markers.

Complete the reassembly of the Holbrook obelisk. Because Col. Holbrook was an important town figure and bell founder, and his house remains below the hill, it would be beneficial to restore views to the house for interpretive purposes.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

There is a low, 3' high skillfully built fieldstone wall running along the east side of Veterans Way. It is capped with rough stone slabs. In general, the wall is in good condition except that one of the cap stones rocks back and forth slightly near the upper end of the wall where a wood fence begins. The fieldstones are well seated and interlocked.

Wall at southwest corner

Lying between the maintenance building and the sunken area is a low quarried granite wall with units dry laid in a broken ashlar pattern. The wall retains about a foot or two of earth on the cemetery side. The stones are well fitted together and are generally undisturbed. There is one location where the units are rotated outward somewhat. There may have been a tree at this location that has been removed. No remedial work is needed at this wall.

Recommendations

Cemetery personnel should continue to make periodic observations and replace any stones that may loosen or fall out from time to time.

Interior Walls

Issues

Wall at the southeast driveway

A drive leads from the circular sunken area down the east side of the hill to the Auburn Street entrance. The west side of the drive is defined by a dry laid fieldstone retaining wall that is 4' high at its highest point. At this same point, where the slope of the hill also rises another 4 or 5' above the top of the wall, the wall tilts outward about 2 to 3" and a few individual stones have fallen out. Large trees growing near the back of the wall may aggravate this leaning condition. Although the wall appears to have been expertly built and is probably several feet thick at its base, it may not have been designed for the surcharge load due to the weight of the slope of the hill above the wall.

Retaining walls at terraced plots

There are several terraced plots with dry laid fieldstone retaining walls providing structural support to some grave lots. All of the walls observed appear to be intact, with no displaced stones or fallen stones. Although the walls are well built, some of them are fairly high in some locations and appear precarious.

Recommendations

Wall at the southeast driveway

Cemetery personnel should monitor this wall and replace any loose and fallen stones. A vertical level should be used to measure the tilt in the wall. If it continues to move, indicating an active condition and potential instability, the wall should be torn down and rebuilt in a manner to withstand the surcharge load. This may require that the stone wall be thickened or that a reinforced concrete wall be built with a stone veneer.

Retaining walls at terraced plots

Cemetery personnel should monitor these walls. Loose or fallen stones should be replaced whenever they appear.

Mound Tomb and Vault Structures

Issues

Receiving Tomb

About halfway along Veterans Way is a simple, unmarked holding or receiving tomb. The front wall consists of 5 roughly dressed granite jamb stones and a 9' long, 12" thick and 14" high head stone capped with a pediment stone. Opening the operable iron door, the interior of the vault consists of fieldstone walls and a stone slab roof, all coated with a plaster or cement parge. Fieldstone retaining walls were present on both sides and in the same plane of the mound tomb facade. The tomb and the retaining walls were in excellent condition and appear to be maintained periodically.

Currently used for the storage of old markers whose original locations are not known, the tomb was reportedly broken into this past winter. The green painted 3/8" solid steel plate door now has a missing hasp, and the area is rusting.

Richardson family tomb

The front wall of the Richardson tomb consists of several simple, 10" thick, smoothly dressed slabs of granite. The 4 jamb stones are separated by 3 inset inscribed marble memorial tablets dating from the 1850s. Capping these stones are 3 stepping lintel or pediment stones. The stones are not mortared but set with lead strips between joints. Insofar as there has been some relative movement between stone units, they are probably not set with dowels. The lower pediment has shifted at the right end and the left jamb has tilted. An earth mound covers the vault, preventing any insight on the vault construction.



Mound tomb

Mound tombs

There are also 2 shallow mound tombs, each with 3 horizontal cut granite slabs stacked in a simple manner with each one slightly shorter in length than the one below. One has carved letters that read "Captain Nathan Jones - Dr. Abijah Richardson - erected 1797." The other reads "Buckman & Lovell - 1795, Richardson's - 1845." The latter is leaning forward. The granite is in good condition, having only some lichen on the surface. Both mounds appear to have settled because there is no earth mound to speak of immediately behind the granite.

Recommendations

Receiving tomb

Repair the access door such that it can be locked and repaint it.

Richardson family tomb

If the individual stones at the tomb continue to move relative to each other, the facade should be dismantled and then reassembled with stainless steel pins epoxied and mortared into drilled holes such that each unit has at least two pins across its bedding joint.

Mound tombs

Dismantle and then reassemble the Buckman & Lovell lintel after providing an appropriate foundation. Provide additional earth fill if further investigation determines that the actual level of earth on the mounds was higher.

Masonry trellis

Issues

A masonry trellis is located on the west side of Veterans Way serving as a pedestrian route from the historic section to new section of the cemetery. The trellis has about a 6' high clear passage and consists of two pillars of articulated mortared stone [marble] and brick [brownstone fragments] with concrete trellis bars. Notches in the trellis bars were to receive wood slats that are no longer present. The 14" by 18" pillars are in good condition. The two 6" wide by 8" deep by 7' long primary concrete trellis beams have reinforcing steel and large embedded stones. The reinforcing steel has corroded and split the concrete. An attempt has been made to repair the spalled and split concrete but the bottom patches are now deteriorating. The concrete cross bars are probably not reinforced and are in good condition, although the concrete is deeply etched on the surface. The foundation for the trellis is unknown.

Recommendations

The concrete trellis bars should be dismantled and the two beams replicated with new concrete. The etched crossbars can be sealed with a clear coating to retard further deterioration and can be reused.

BUILDINGS

Issues

The maintenance building is a small garage, about 24' square, located at the end of Veterans Way. It is clad with metal panels on the roof and walls, green with white trim. Many of the panels have been dented and, in some places, torn where someone has attempted to pry them open. In spite of the minor vandalism, the panels have been able to resist intrusion except where one clear plastic clerestory panel has been cut open. The front of the building has numerous dents from vehicle impact. Although in somewhat battered condition, the garage appears to perform its function adequately.

Recommendations

No changes are recommended.

FENCES AND GATES

Wood Fences and Gates

Issues

Much of the historic section perimeter is lined with rough cut granite posts connected by two diagonally set horizontal square wood rails with ledge pins. One rail is missing. It was reported that wood gates used to exist at each of the entrances.

Recommendations

Maintain this fence. Replace the missing rail. Consider replacing the gates at the entrances.

SITE AMENITIES

Signs

Issues

A sign provides direction to the cemetery from Route 109. There are 2 signs at the older Auburn Road entrance. One states "No Dogs Allowed - Violators will be fined \$50.00 - Per Order of DPW/Selectmen" and the other identifies "Millis Historic Trail" stop 16 with the names "Bare Hill, Prospect Hill Cemetery."

The entrance to the newer part of the cemetery from Veterans Way has 3 signs set back from Auburn Road. One identifies Prospect Hill Cemetery, another notes the hours of operation and a third states that no dogs are allowed.

A bronze plaque on the stone retaining wall near the maintenance building commemorates the Ware family Rose Bushes that were originally transplanted from Nebraska. These eventually died and were replaced with local roses.

Recommendations

A sign with some historic background information would be beneficial.

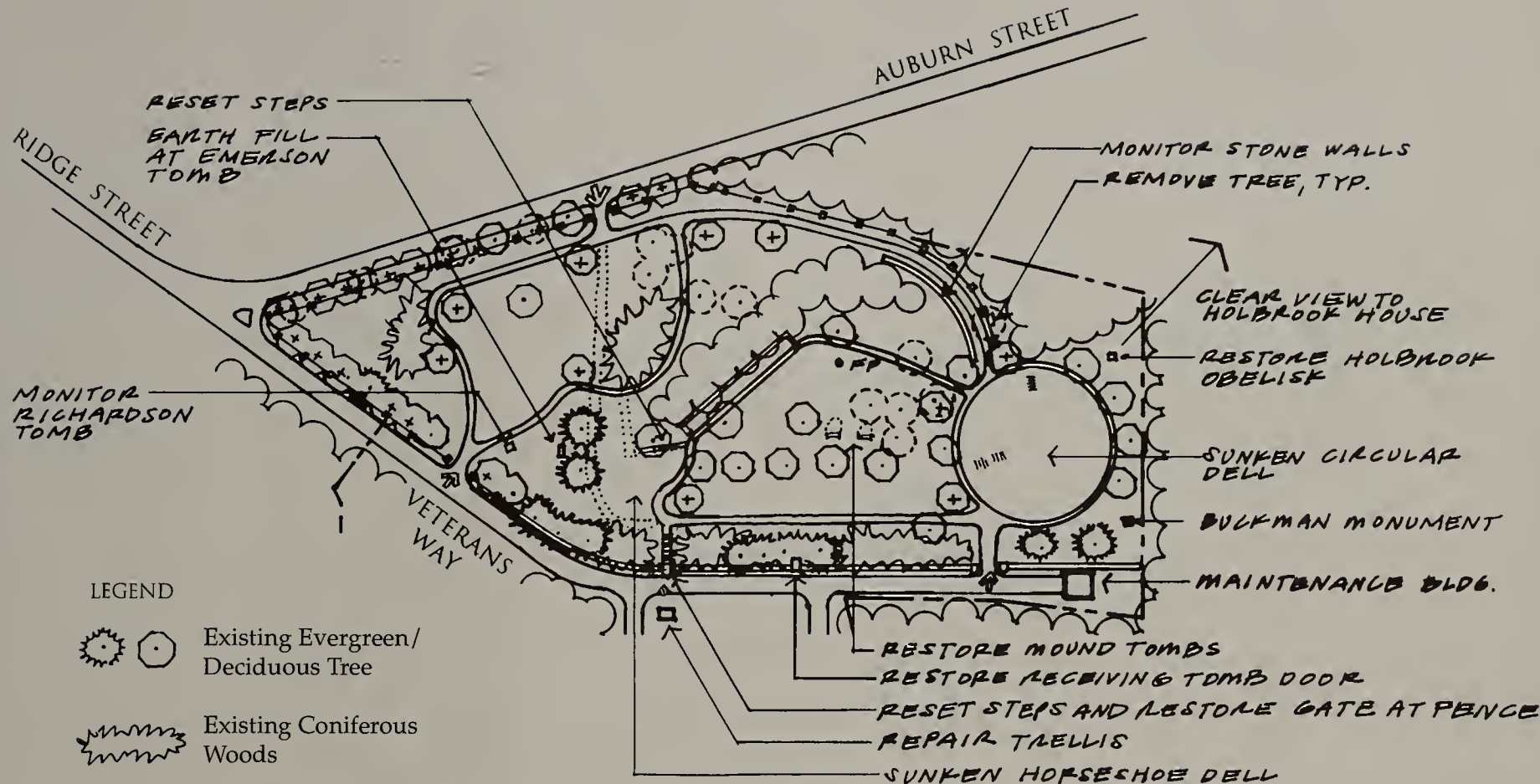
Trash Receptacles and Seating

Issues

One flat cast stone bench is sited near the flagpole. No trash receptacles were observed.

Recommendations

Do not provide additional amenities of this type.



LEGEND

- Existing Evergreen/Deciduous Tree
- Existing Coniferous Woods
- Existing Woods
- New Deciduous Tree
- Pedestrian/Vehicular Entrance
- Flagpole

- Paved Drive
- Lawn Path
- Stone Wall
- Wood Fence



NORTH
MAY 2001
1" = 200'

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
SUZANNE SPENCER-WOOD, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

PROSPECT HILL CEMETERY PRESERVATION PLAN MILLIS, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

Flagpoles

Issues

A galvanized pipe flagpole, about 30' high, is located near the high point of the cemetery. The silver paint finish is beginning to fail as some rust corrosion is apparent.

Recommendations

Paint the flagpole.

UTILITIES

Drainage

Issues

All drainage appears to occur on the surface and most of it flows to the east toward Auburn Street. No drainage structures were observed in the sunken circular dell.

Recommendations

No changes are recommended.

Water Supply

Issues

Hose bibbs are provided throughout the cemetery. Some exposed water supply pipe was observed near the high point.

Recommendations

No additional water supply is recommended. Provide adequate cover for the exposed water supply pipe.

Lighting

Issues

No light fixtures were observed inside the cemetery.

Recommendations

No lighting is recommended.

PRIORITIES

High Priority

- Trees with large cavities, leaning into the cemetery, drives or grave markers.
- Remove volunteer growth.
- Erosion and lawn repairs.
- Restore grave markers that present public safety hazards or are structurally unsound.
- Replace dowels in multipart stones that are visibly cracked or spalled.
- Conserve historically significant marble markers that are in danger of becoming illegible.
- Slate marker resetting and repairs.
- Broken stone repairs if the inscriptions are legible and at least 75% of the stone is available.
- Earth fill at exposed monument bases.
- Gates at vehicular access points.
- Repair steps.
- Repair receiving tomb door.
- Repair mound tombs.

Medium Priority

- Trees with large cavities, leaning away from drives and grave markers.
- Replace dowels in multipart stones with visible metal stains at the junction between stones.
- Clean legible markers.
- Repair masonry trellis.

Low Priority

- Trees with a small amount of dead wood and branches, and trees protected from the winds in close to the edge or other trees.
- Tree replacements.
- Reset markers that have shifted or are leaning.
- Reevaluate and conserve marble markers that are currently in satisfactory condition, as necessary.
- Provide interpretive signs.

PRIORITIZED COST ESTIMATES

High

Tree removals	\$12,000
Tree pruning	14,500
Tree support systems	500
Tree fertilization	2,300
Erosion and lawn repairs	8,000
Earth fill at monument foundations	3,000
Restore earth at mound tombs	700
Gates at vehicular access points	15,000
Repair steps	6,000
Repair receiving tomb door	500
Repair mound tombs	<u>1,500</u>
	64,000

Medium

Repair masonry trellis	<u>2,000</u>
	2,000

Low

Tree pruning	4,000
Tree fertilization	4,000
Vegetative pest management	4,000
Tree replacements	14,000
Interpretive signs	<u>10,000</u>
	36,000

Costs associated with grave marker work have not been included. Refer to the General Recommendations section for approximate costs of various types of repair.

National Register Status: *Inventoried,
Recommended Eligible*
Current Management: *Cemetery Commission*
Status: *Inactive*
Condition: *Fair*



View from north to interior of cemetery

ELM STREET CEMETERY

BRAINTREE, 1716

Located on Storrs Square on the south side of Elm Street opposite the First Congregational Church [formerly the Second Parish Church] and near the Southeast Expressway [route 3], this 1.4 acre historic cemetery also known as First Burial Ground and First Parish Cemetery has a decorative Gothic Revival iron fence facing Elm Street.

Stone walls separate the gently sloping rectangular site from residential and commercial uses on the other three sides. The perimeter stone wall was erected in 1747. Christopher Thayer fenced the site with a stone wall in 1783 in return for the privilege of pasturing calves there as payment. The cemetery was enlarged in 1824 when Dr. Stephen Thayer removed the old board fence on the north side and erected a stone wall in its place, added two stone posts and a gate, and other repairs in return for the pasturage for calves and sheep as well as the privilege of a tomb for \$3 and a passage way on the west and south 9' in width forever for that purpose. The 5 granite posts bisecting the cemetery today may indicate the former limits of the original cemetery.

Settled in 1634, Braintree was incorporated as a town in 1640. A committee was appointed to establish a burying ground in 1713 and a site purchased for 10 pounds in 1716. It was the first burial ground in town, ie., the South or Middle Precinct. Virtually all of the families of the old Middle Precinct are represented in Elm Street Cemetery including Revolutionary War veterans. The first burial was in 1716, Mrs. Elizabeth Niles, the wife of the first pastor, Rev. Samuel Niles, with stones over the grave as a protection against wolves. The Puritan vision portrayed on the 1768 stone of Lt. Nathaniel Thayer is one of the most noted in the cemetery.

Church leaders interred here include Rev. Ezra Weld in 1811, Rev. Dr. Richard Salter Storrs in 1873 and Rev. Winfield Holland in 1934. Gen. Sylvanus Thayer was also buried here near his parents in 1872. He was later moved to Memorial Cemetery at West Point in 1877. There is also a handsome granite monument for Benjamin Vinton French, founder of the Massachusetts Horticultural Society, 1791-1860, although he is actually buried in a tomb.

For many years the church sexton shared in the responsibility for the upkeep and use of the cemetery. In 1892 the First Parish Association incorporated for the purpose of establishing a fund to provide for the care and repair of the old burial ground. The town acquired the property and funds of the cemetery in 1964. The latter was reputedly placed in the general fund and lost for use in care of cemetery. The site is now cared for by the town Cemetery Commission.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The character of the old burial ground changed in 1835 [only a few years after the founding of Mount Auburn Cemetery] when it was decreed that "any person or persons may plant trees or shrubbery on the Parish grounds under direction of the superintendent of the burying grounds provided the same is done without any expense to the Parish." This decision ultimately created a Victorian landscape character with a variety of plant materials. That character extends throughout the site although most of the "shrubbery" is now gone and the taller vegetation is primarily deciduous.

Although the entire cemetery parcel was assembled prior to the founding of Mount Auburn Cemetery, the southern half of the property has more of the cemetery character of a site developed in concert with the changes instituted by Mount Auburn. While the northern half of the site contains most of the older grave markers, it has been overlain with more contemporary vegetation.

Recommendations

Because this is an urban cemetery with adjacent buildings in close proximity, a more heavily vegetated landscape like that associated with Mount Auburn is advantageous in that it can assist in screening incongruous buildings from a visitor experience. Vegetation in the northern half of the site should be concentrated on the east and west sides to provide that screening benefit while allowing an open expression towards Elm Street. Vegetation in the southern half of the site should have more of the Victorian character associated with cemetery development of that era.

Planting

Issues

While there are 31 trees growing in the site including 10 species, Norway Maples make up 40% of the total. Large deciduous trees include 2 American Horsechestnut, 1 Littleleaf Linden, 12 Norway Maple, 1 Sugar Maple and 4 Black Oak. A Littleleaf Linden has the largest trunk diameter. The tallest and broadest tree is a Sugar Maple. Small deciduous trees include 1 Black Cherry, 1 English Hawthorn and 2 Japanese Maple. Large evergreen trees include 2 White Cedar and 4 Colorado Blue Spruce. The average tree diameter is approximately 20". In addition to a large Rosebay Rhododendron, shrub and ground cover varieties include Black Chokeberry, Honeysuckle, Periwinkle, Rose, Snowberry, Spiraea and Yucca.

The trees are in fair to poor condition as observed by short annual terminal shoot growth, size of bud, accumulation of dead branches, percentage of crown deterioration [die back], decay throughout the main stems of tree structures and surface root loss or damage. Some of the trees are codominant and have a multistem structure making them subject to large branch failure. Located in an urban environment where people constantly walk through the area, soil compaction is a problem stressing these trees. The area does not appear to have drainage problems that would affect tree roots.

Three trees have extensive decay throughout their main stems and present a high risk of possible failure. Branches have failed and left open wounds allowing fungi to enter. Older trees under stress do not compartmentalize fast enough to slow the spread of decay and large branch failure is common. Nine other trees are too close to a wall or grave marker, have declined in health more than 50% and/or have problematic roots.

Three trees have structural growth problems with main stems that have forked branches. As they grow larger, failure at the fork leaves the tree lopsided and prone to decay fungi. Installation of support systems such as galvanized steel eyebolts and 7 strand cable helps prevent large branch and main stem failure.

There are trees with a large amount of dead wood throughout their crowns presenting hazardous conditions for people passing through. These trees are under stress.

Recommendations

In order for these trees to survive, a safety and plant health care program should be implemented as soon as possible. Because of poor structural condition, decline in health and/or closeness to grave markers, stone walls or fences, 11 trees are recommended for removal. Trees that have structural problems from decay should be removed as soon as possible or the area should be fenced off to keep people from walking beneath or near the trees.

To improve the health of the remaining trees some arboricultural services are recommended. Dead and dying branches 2" in diameter and larger should be pruned out. To help prevent large branch failure three trees should have support cables installed. All trees should be fertilized with a slow release fertilizer that has a 3-1-1 ratio of macronutrients. All trees should be inspected on a periodic basis to insure a safe environment and preservation of the trees.

Volunteer Growth

Issues

Volunteer Sumac, Cherry saplings and bramble type plants are growing in the southwest corner and adjacent to the Arnold Mound tomb.

Recommendations

Remove all weed trees and volunteer growth. All underbrush around the trees, walls and grave markers should be removed to ground level once a year.

Lawns

Issues

Lawn areas are in fair to poor condition with moss and herbaceous weeds evident in numerous locations as well as uneven settlement with many depressions and slightly mounded areas and some surficial erosion. It is evident from the types of weeds growing in the grass that the soil is deficient in nutrients and/or has a soil pH problem. Evidence of grubs was also present.

Recommendations

Restore and repair lawn areas.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

There are two points of pedestrian access from Elm Street at northeast and northwest corners of the site, immediately adjacent to the vehicular entrances. The pedestrian passages are too narrow for universal access with only a 20" wide clearance. Gradients inside the cemetery are gently sloping and acceptable for universal access.

Recommendations

No changes are recommended for pedestrian access. Universal access should continue to rely on vehicular access routes.

Vehicular Access

Issues

There are two points of vehicular access from Elm Street at northeast and northwest corners of the site with 9'-6" clearance.

Recommendations

This system appears sufficient for the visitation requirements and no changes are recommended.

Security

Issues

While the entire perimeter of the site is walled and/or fenced, numerous sections of fence are missing and much of it is too low to prevent unauthorized access. Pedestrian access ways are always open.

Recommendations

Improve security measures to reduce the destructive aspects of vandalism.

VANDALISM

Issues

The impact of vandalism is apparent with a number of toppled and broken grave markers particularly at the rear or south end of the site. In addition to broken glass from beer and alcohol bottles, there is paint graffiti on a box tomb, the entrance gateway and perimeter stone wall. The site is used as a short cut by adolescents who climb over the wall at the southwest corner. A section of dismantled fence forms a bridge between an adjacent roof and the top of the west perimeter wall. Indigents have reportedly used the Vinton Tomb also at the south end of the site.

Recommendations

While vandalism may not have been a significant issue in recent years, the illicit activities on the south side of the property should be curtailed before vandalism once again becomes significant inside the site. Active police patrol and control are recommended to eliminate this threat. Repair grave markers and remove the broken glass and paint graffiti.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

Although the site has a relatively regular and rectangular layout, there is no apparent formalized circulation system inside the cemetery.

Recommendations

Maintain the existing informal system.

Steps

Issues

The only steps inside the cemetery are related to some of the family plots.

Recommendations

No improvements are recommended.

Pavement Materials

Issues

All surfaces inside the cemetery are lawn with no defined circulation system.

Recommendations

Surface materials should remain grass until visitation reaches the point where it is no longer practical to maintain lawn. At that time a paved path system should be considered.

GRAVE MARKERS

Headstones and Footstones

Issues

This Cemetery contains between 650 and 750 markers as well as about 20 obelisks. The older northern half of the cemetery contains approximately 266 graves, 135 of which have burial dates through the 1700s. This area primarily contains the older slate markers and some have foot stones associated with them. The southern half of the cemetery has primarily marble markers with some slate and granite. There is also a flush rusting iron plate with names near the center of the site. Closed in 1886, there were a few burials after that. 1963 was the most recent death date found in a brief examination.

Over 300 of the markers are slate, and there are 30 or more fragments of old slate partially buried in the ground. For the oldest and perhaps most historically valuable stones, the slate tablets, conditions include the usual splitting, tilting, scarring from weed whackers and breakage. The worst situation, however, is that of slates which are both broken and partially buried in the ground. There may be more slate fragments just below the present ground surface. Earth is piled up against some slates, perhaps intentionally as a means of providing support to keep them upright.

Many of the over 100 marble markers are either out of plumb or toppled to the ground. The marble stones, including the obelisks, have soiling from atmospheric pollution and botanical growth [moss, mildew, fungus, lichen]. Erosion of the marble surface due to acidic deposition [rain, fog, snow] is also present, and surfaces are "sugaring", i.e., marble grains can be rubbed off. Thus, shallow inscriptions are becoming illegible. The marble Holbrook obelisk has had a poor adhesive repair at a break in the stone.

Although granite markers are not as numerous, they represent many different local granites: pink Westerly and gray Westerly from Rhode Island; blue and gray Quincy granite; and some Weymouth seam face granite. They have similar issues with tilting, toppling, soiling with lichen or moss, and even breakage. The large granite monument for Benjamin Vinton French, fabricated by F. Barnicoat of Quincy, has some soiling and minor vandalism.

Vandalism has caused most of the structural problems with the stones. Weathering and age have caused the soiling and surface erosion.

Recommendations

All toppled and severely leaning grave markers should be reset. Multipart stones may require deeper and larger foundations. Multipart stones that have come apart should be repinned with noncorroding pins. The joint between the vertical stone and base stone should be filled with a material matching the original installation such as lead or a high lime mortar. Stones that have been poorly reassembled should be reconstructed in their original configuration.

All partially buried markers [whole and fragments] should be excavated and cleaned under the supervision of a qualified, professional archaeologist. If identification is clear, resetting might be considered. If unidentifiable, which is more likely, they should be cleaned, clearly labeled and stored for possible teaching purposes, or used in piecing or supporting existing stones, particularly slates.

Splitting or delaminating slate markers should be treated by a conservator. Previously used fillers have proved unsatisfactory. Moisture should be prevented from entering the voids, but with a substance which remains flexible and does not expand to push the slate layers further apart.

Markers should be cleaned to remove harmful soiling and botanical growths. A stone conservator should prepare a program of work, specifying appropriate materials and methods for use. Marble that has turned black should be examined for legibility of inscriptions. Clean the black soiling off all marble markers where design and lettering can be read. If the inscription is fully eroded and the surface has no legible lettering or designs, the stone should be given a lower priority for treatment.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

The perimeter stone walls on the east, south and west sides are in generally good condition except at a few locations where stones have fallen out and where a light iron picket fence on top of the wall has been damaged or is missing. Most of the east side property wall is a granite wall consisting of large, semi-dressed units laid up in a broken ashlar pattern. The stone appears to be Quincy granite. The wall has no continuous joints and the stone is cut as opposed to being rubble or fieldstone. It is typically 42" high with an 18" wide rough hewn granite cap. This section of wall may have been built by Dr. Stephen Thayer in 1824 when he was also authorized to erect the stone posts and gates at the entrances into the cemetery. This wall has been repointed with hard mortar that has subsequently cracked and broken.

The south end of the east wall and the south and west walls are rubble walls that may be the original 1747 walls. The capstones may have been added during the 1824 construction. Like the east wall, the mortar is cracked, loose and missing. At the south end of the east wall, several stones are missing and there are openings through the wall. Except for localized loose or missing stones, the walls on all three property lines are intact and only need routine maintenance consisting of the removal of hard mortar and repointing with a softer mortar.

Recommendations

Replace missing stones and reset loose stones in the perimeter walls. Remove the mortar covering horizontal surfaces. Remove cracked and loose mortar and repoint with medium strength mortar such as a type N, using 1 part masonry cement and 2-1/2 to 3 parts sand. The strength should not exceed 1,000 psi. When repointing or resetting stone and masonry work the mortar should be colored to match any existing surrounding original or early mortar. On vertical joints tool the joint slightly concave and stipple before it sets to present a weathered look. Until the wall is fully repointed, remove the plants growing in the joints.

Tombs and Vaults

Issues

There are three vaulted tombs among the modest headstones. The tombs are in good condition in spite of some shifting of individual stones. Some of the facade units, especially Hon. E. Thayer's tomb, are not mortared but leaded. Additional study may be needed to determine if these joints are watertight and, if not, whether the stonework should be dismantled in order to repair it.

Hon. E. Thayer's tomb: Outside the entrance to the cemetery and facing Elm Street, is a granite faced vaulted tomb with vegetation on top. The side and rear walls consist of semi-dressed broken ashlar with smoothly dressed granite at the front facade. The hard mortar is broken or missing. Moss growing in the joints indicates chronic, deep moisture penetration into the joints. Although some of the ashlar units have shifted or fallen out, the large facade units have not been displaced. It needs repointing. The iron door is rusted and the bottom of the door is buried such that it does not open. The exposed iron hinge strap has separated from the door.

Vinton Tomb: On the south edge of the cemetery facing north, is a double compartmented granite faced mound tomb with granite wing walls and grass on top. The side and back walls consist of mortared rubble and the roof consists of granite slabs. The top and sides are buried under a shallow cover of earth. Except for efflorescence on the faces of the stones, which indicates that moisture is infiltrating the mortar joints, this stonework appears to be intact. The facade is made up of large, smoothly dressed granite units that extend beyond the side walls as curved wing walls. The wing walls have displaced outward at least two inches and have dragged the main lintel stone with them. However, the stones are heavy and stable and could be left in their slightly altered condition provided they are sealed from water and frost action by repointing with mortar. Drains should be installed behind the wing walls to relieve water and earth pressure that is causing these walls to displace. The entrance has a granite step down to a small terrace paved with large bluestone slabs. The granite facade had 2 vertical marble markers [1 is missing] and 2 marble doors [1 is in place although handles are broken and the other is missing]. It is interesting to note how well the copper or bronze mounting pins of the missing plaque have killed the moss and fungal growth where exposure to rain has permitted washdown. One tomb entrance has been partially blocked up with concrete masonry units that have apparently been partially removed by indigents to allow access. Inside walls are granite with built in partial shelves to hold caskets. The inside of the tomb is now partially filled with debris and at least one marble marker.

S. V. Arnold's Tomb: On the west edge of the cemetery facing south is a mound tomb with volunteer woody growth on top. The side walls and roof show through the shallow earth cover. The facade consists of small, dressed granite units. The stonework appears to be in good condition but the joints need to be repointed with mortar. It has some paint graffiti. A marble marker is located above a rusted iron door that is partially buried at the bottom. The latch is missing.

Mrs. Elizabeth Niles box tomb: Near Thayer's Tomb at the northwest entrance, this small [3' x 5' x 2'-10" high] tomb of the wife of the first pastor Rev. Samuel Niles is constructed of mortared rough granite stones and a single rough hewn granite cap. Although generally in good condition, the vertical slate marker on the north side is cracked and there is paint graffiti on the top and south side.

Recommendations

As a minimal repair, the mound tombs should be repaired in a similar manner as the perimeter walls. For a more elaborate repair of the mound tombs, dismantle the facade stones of the tombs, clean the joints and reassemble the facades in new beds of mortar or lead as required to match original construction. Open the doors and inspect the walls and roofs from the inside to determine if further work is needed, such as repointing or adding drains on the exterior of the walls. Regrade the earth banked around the sides of the vaults. Work that involves subsurface disturbance should be conducted under the supervision of a qualified, professional archaeologist.

The granite of the Vinton tomb should be cleaned and the open joints repointed. If the missing marker and door cannot be found, plain slabs of compatible marble or granite should be installed. The other iron tomb doors should be secured which may entail reattaching them to their hinge straps. They should also be cleaned, primed and painted.

Edging of Family Plots

Issues

Seven family plots [Denton, Fogg, Hollis, Sherman, Storrs, Thayer and Vinton] have granite edging and some of them have one or two granite steps up to the plot. Most are in good condition with a little settlement or overturning and only minor or no resetting required. A volunteer tree has pushed over one length of edging at the Fogg plot. The earth has settled in the center of the Vinton plot.

Recommendations

Reset edging as required. Remove the tree from the Fogg plot before resetting. Provide earth fill in the center of the Vinton plot. After resetting the octagonal corners and steps at the Thayer plot, caulk the joints with lead to match the original installation.

BUILDINGS

Issues

Although there are no buildings in the cemetery today, a hearse shed was moved to the northeast corner in 1824. It was removed in 1831.

Recommendations

Consideration should be given to providing an archaeological investigation to determine the former location of the hearse shed for interpretive purposes.

FENCES AND GATES

Issues

Elm Street Fence

The highly visible Gothic Revival fencing along Elm Street facing the former parish house consists of decorative cast and wrought iron panels and stanchions that may have been installed about 1900, shortly after the 1892 founding of the First Parish Cemetery Association. The fencing is generally intact, although there are some missing elements. Each 32" high panel consists of a handrail, several arched pickets and a flat, bottom rail. The hollow handrail is made of two matching shapes that form the top and bottom of the handrail. The top handrail and bottom rail of the panel are connected to 52" high stanchions, which occur about 8'-10" apart along the sidewalk and about 7'-7" apart along the two entry drives.

Typically, the heavier elements of an iron fence assembly were made of cast iron and the lighter, curved elements of wrought iron. Although one would have to verify the actual makeup of the elements with metallurgical testing in order to be sure, it is likely that the stanchions and possibly the handrails are cast iron while the bottom rail and pickets are probably wrought iron. The top and bottom rails were bolted to metal clips that protruded from the stanchions. Steel clips and bolts may have been used for these attachments. Because cast iron and early wrought iron form surface oxides that protect these metals from corrosion, the Elm Street fencing is generally free of deterioration from corrosion. Nevertheless, deterioration has developed where the top and bottom rails are attached. In some cases the bolts are missing and in others the clips have corroded, especially where the bottom rails are in contact with the ground. Past repairs of the connection have included welding and some of these repairs have separated again.

With respect to long metal fences, replacing bolted connections with welds has the effect of converting a loosely jointed assembly into a continuous, rigid system that develops high internal stresses from expansion and contraction due to seasonal and daily temperature changes. While the condition of the panel and stanchion connection is the most important structural issue for the fencing, the fence has additional localized damage. Although 22 of the 25 panels are more or less intact, one of the remaining three has 6 pickets broken off, another has several pickets missing and a steel replacement handrail, and the third has a broken iron handrail. There is also one stanchion finial missing. The stanchions sit on original rough hewn granite blocks with compression rods. Concrete curbing that fills in the spaces under the panels between the granite blocks also appears to be in good condition. The fence is set level above the concrete base which takes up the sloping grade along the side walk.

Entrance gateways on the east and west ends of the fence are set back from the street and flanked by large granite posts with finely cut and dry laid cap stones. The gate posts are soiled, with some moss growing in areas sheltered from direct rainfall. The top of one of the gate posts has shifted slightly on its base. The entrances have operable cast iron vehicular gates and open pedestrian passages. The gates are intact and operable. While the gates are generally in good condition, the east gate has early signs of rust jacking at the decorative bottom panel. All of the ironwork exhibits some degree of rust and corrosion. However, it appears that no detailing has been lost, yet.

Perimeter Fence

A 24" high, lightweight iron picket fence is attached to the top of the capstones on the three property line walls at the east, south and west. It is made up of channel rails and square pointed pickets turned at 45 degrees. The fence is back braced on the cemetery side. The fence is pitted from corrosion but is generally intact along much of the east and west walls. However, numerous sections are missing or have been toppled at the south wall and the south ends of the east and west walls. While many of these sections could be retrieved and restored, many appear to be lost.

Fences and Chains at Family plots

Most of these elements are missing or partially destroyed. Some like the Holbrook plot have evidence of former iron fencing with 9 granite bases remaining. Another near the center of the cemetery with a toppled marble obelisk has 4 granite posts with some of the rusted coiled iron chain remaining.

Vinton Mound Tomb: Cast iron fencing flanks the tomb. Rusted double rails are supported by granite posts. The east gate is intact, but the west gate is missing as well as one rail. Another rail is broken and partially buried on the east side.

French family plot: Rusted straight link double iron chains are supported by 12 granite posts. Several segments of chain are missing as well as some eyebolts. One of the posts is toppled. A heavily rusted light iron gate on the north side states "1842, Charles French Family Cemetery." The bottom of the gate is buried. It appears that the original central section of the plot expanded to the east and west based upon evidence of plugged eyebolt holes in the granite posts.

Arnold family plot: On the east edge, this plot has a square section 3 rail iron fence set diagonally between 10 granite posts. The iron work is rusted, all 3 gates are missing, one of the posts is broken, 10 rails are missing and one rail is bent.

Recommendations

Elm Street Fence

The iron fence should be restored by dismantling the entire fence, cleaning and inventorying its parts and reassembling it. Molds could be made so that missing elements could be reproduced. Missing and broken parts should be replaced with new iron or stainless steel components. Except for stainless steel, different metals [such as plain or galvanized steel] should not be mixed with or be in contact with iron. The rails should be connected to the stanchions with bolts in holes that are slightly oversized. The entire fence should be cleaned, primed and painted. A black matte or semigloss finish is appropriate. The earth covering the lower rails should be removed under the supervision of a qualified, professional archaeologist.

Perimeter Fence

The preservation solution is to restore the lightweight picket fencing on top of the stone property walls to a sound and functioning condition. Bent pickets should be straightened and fasteners secured. Where sections are lost, move sections from the south wall to replace missing sections on the east and west walls and provide replicated new fencing on the south wall. The entire fence should be cleaned, primed and painted.

However, because security is an issue here, the 24" high lightweight fencing should be replaced with a heavier weight fencing similar in design to the existing fencing at a height of at least 4' and as high as 6' to deter trespassers. This approach should only be undertaken if a means to secure the open access from Elm Street is resolved.

Fences and Chains at Family plots

These elements should be restored where possible based upon evidence of actual former components.

SITE AMENITIES

Signs

Issues

The only identification of the cemetery is a carved inscription on a granite gate post at the northwest entrance that reads "First Burial Ground of Second Parish." It is difficult to see from the street.

Recommendations

Provide an appropriate identification sign outside the northwest entrance. It would be beneficial to add informational and/or interpretive signs, particularly if the site becomes a part of the National Park Service bus tour related to the Adams sites.

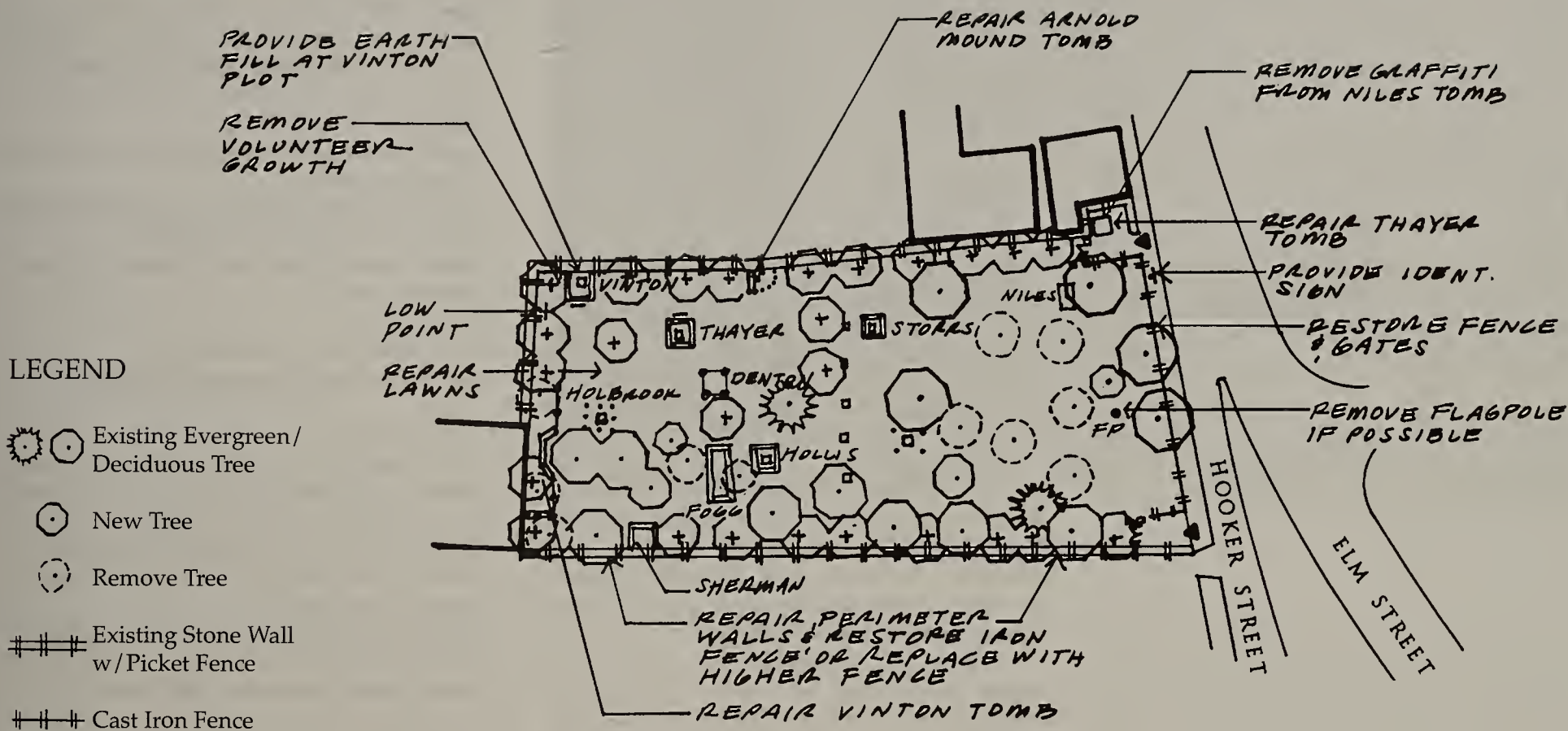
Trash Receptacles and Seating

Issues

There are no trash receptacles or seating elements.

Recommendations

Do not provide seating and trash receptacles inside the cemetery.



ELM STREET CEMETERY PRESERVATION PLAN BRAINTREE, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
SUZANNE SPENCER-WOOD, CONSULTING ARCHAEOLOGIST
NOVEMBER 1999 SARA B. CHASE, PRESERVATION CONSULTANT
1" = 100' OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

Flagpoles

Issues

A 25' high fiberglass flagpole is sited near Elm Street, centered between the two entrances. It is in fair condition with a declining finish. No flag was flying. A ring of brick pavers marks the base of the flagpole and an adjacent small stone boulder is inscribed with "Lest We Forget." It may be a memorial or veterans organization contribution.

Recommendations

If the flagpole is no longer used, it should be removed and not replaced.

UTILITIES

Drainage

Issues

No drainage structures are evident. The site drains on the surface with a gentle slope. It is relatively level with a shallow ridge line running north-south down the center of the site. The high point is near the center of the cemetery and the low point is at the southwest corner.

Recommendations

No changes are recommended unless problems are discovered.

Water Supply

Issues

No source of water was found inside the cemetery.

Recommendations

Water is beneficial in times of drought and would help to re-establish lawns. Work with adjacent property owners to provide hose bibbs or provide a source of water in the public right of way outside cemetery walls.

Lighting

Issues

No light fixtures were observed inside the cemetery. Some residual light is available from the adjacent road on the north side and the commercial neighbor at the southwest corner.

Recommendations

Do not provide light fixtures inside the cemetery. If it is deemed necessary, the addition of security lighting should be mounted on adjacent buildings wherever possible. If this is not possible or practical, security lighting should be pole mounted at the edges of the property where they would provide the least visual intrusion.

PRIORITIES

High Priority:

- Stone conservation including resetting and repair of markers and pin replacement in marbles that are visibly cracked or spalled
- Collection and disposition of partially buried markers
- Vegetative pruning and removals including volunteer growth
- Repair of structural items like the Vinton tomb
- Restore Elm Street fence and gates
- Improve security measures. Restore or replace perimeter fencing
- Lawn repairs
- Identification sign placement
- Remove broken glass and paint graffiti

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base, and cleaning legible markers
- Repair perimeter walls and remaining tombs
- Family plot restoration and repair [edging, fencing, chains and gates]
- Installation of support cables and fertilization of trees.
- Consideration of adding water supply

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Informational and interpretive signs
- Additional planting
- Resolve disposition of flag pole
- Consider archaeological investigation for former hearse house

National Register Status: Listed as part of Town
Green Historic District
Current Management: Parks Department
Status: Inactive
Condition: Fair



Central Avenue vault tombs

WALNUT STREET CEMETERY

BROOKLINE, 1717

Walnut Street cemetery, also known as the Old Burying Ground, dates to 1717 but its appearance today reflects the ideals of the 19th century rural cemetery movement. Dramatic topography is concealed behind stone walls on this relatively small 1.43 acre site. A narrow valley separates two hillocks with rows of vaulted mound tombs. Located at the eastern end of the Town Green Historic District at the corner of Walnut Street and Chestnut Road, the cemetery is no longer active, although the last interment was in 1995.

Walnut Street Cemetery began with 1/2 acre of land purchased from Samuel Clark, Jr. in 1717, 12 years after the incorporation of Brookline. The site was located on Walnut Street, originally called Sherbourne Road. It was one of the oldest roads in the Commonwealth, serving as the main route of travel west from Boston until construction of the Worcester Turnpike in 1806. Located near the First Parish Church Meeting House and town school, the site served as Brookline's only municipal cemetery until 1875 when Walnut Hills Cemetery was established. For over a century the cemetery was informally maintained by the Clark family who were allowed to cut hay there in return for keeping a wood fence around it.

By 1840 the Old Burying Ground had fallen into disrepair because of neglect. It was enlarged that year with the purchase of 3/4 acre from Caleb Clark. It is assumed that this land was on the south side because the older slate markers are on the north side. The same year a survey and a plan for improvement were prepared by E. I. Woodward. The latter included a stone wall and moving the entrance to its present location. These and other improvements transformed the simple parish burying ground into a more fashionable rural cemetery of the time with curving paths and ornamental plantings. This landscape character blended in with the country houses it was surrounded by in Brookline. In 1850 care of the cemetery passed from First Parish Church to the Town.

Walnut Street Cemetery is the resting place of many of the distinguished residents of early Brookline as well as the servants of several families. Prominent people include Zabdiel Boylston who introduced inoculation against smallpox and was an uncle of President John Adams, Anna Mather who was stepmother of Rev. Cotton Mather, Thomas Aspinwall Davis mayor of Boston in 1845, Samuel White a State Representative, descendants of Judge Sewall of Salem witchcraft fame, Rev. John Pierce Minister of First Parish Church from 1796 to 1847, members of the Goddard family who were prominent in politics and commerce in Brookline and Boston, members of the Gardner family, and founders of the town.

Other prominent figures include John Goddard who was wagon master general in the Continental Army in charge of fortifying Dorchester Heights in 1779, and other Revolutionary War heroes like Capt. Timothy Corey, Col. Thomas Aspinwall who commanded the fort at Sewall's Point and prevented the British from proceeding up the Charles River during the Revolution, and Dr. William Aspinwall a physician and surgeon in that war who later established a hospital for smallpox inoculation and represented Brookline in the legislature.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

Today the site is the home of tall and stately trees, mostly located adjacent to the south and west edges which are appropriate for screening adjacent residential uses. Ornamental trees were planted with the expansion of the cemetery about 1840, most likely in the style of the rural cemetery movement. An 1898 account noted Locust, Barberry, White Daylily, Bouncing Bet and Sweet William growing. The lower level understory and flowers which were part of the lush vegetative treatment of the rural garden cemetery are no longer evident.

Recommendations

Consideration should be given to re-establishing a historically appropriate garden style planting in the southern portion of the cemetery. The northern portion, with its older slate markers, should be left more open in character which is more appropriate to the age of development of this part of the site.

Planting

Issues

There are 41 trees growing inside the cemetery composed of 78% deciduous and 22% evergreen species. While Sugar Maples account for 1/3 of all trees, 13 species are represented [14 Sugar Maple, 6 Black Oak, 5 White Oak, 1 American Elm, 1 American Sycamore, 1 White Ash, 1 Tuliptree, 1 Black Locust, 1 Shagbark Hickory, 1 Corktree, 4 Red Pine, 2 Eastern Hemlock, 2 White Cedar and 1 Scotch Pine]. Lower scale material includes a Cherry, Japanese Barberry, Euonymous and Yew.

The plant material has been maintained very well over the years. Trees between 24 and 36" DBH [diameter at breast height] were pruned in 1998. The largest tree is a Tuliptree, perhaps one of the largest in New England at 133.45" in circumference and over 100' tall. Other large mature trees are scattered throughout, but they are not as tall. Most trees are in fair condition with the exception of 5 trees that have signs of extensive decay in the main stem [trunk]. An additional 5 trees along the west edge of the entrance drive have root damage caused by vehicles or lawn equipment. The two Eastern Hemlock are infested with the insect Hemlock Woolly Adelgid. A large White Oak appears to be dead or is in a serious state of decline. Attached dead leaves during the dormant period are an outward sign of problems from the past growing season. It may be a temporary leaf infection of the fungus known as Anthracnose that was widespread over the past two years. The prolonged wet springs also spread the fungus spores throughout many other species. A standing dead tree trunk of approximately 25' high is located on the south fence line.

Recommendations

Most of the trees on this site were planted, with the exception of 3 volunteer trees just outside the entrance growing close to the fence near the Tuliptree. These should be removed because of interference with the fence as should the large White Oak and the small evergreen tree at the Cook family plot that is interfering with plot fencing. To maintain healthy turf throughout, it would be beneficial to remove the 4 Red Pine and raise some of the lower branches of deciduous trees.

Trees that fail can cause serious damage to people, grave markers and adjacent houses. A hazardous tree evaluation is recommended for the 10 trees that display outward signs of extensive internal decay within the trunks and root systems. A root collar examination is recommended for the 5 trees on the west side of the entrance drive to determine the percent of structural root loss. Clearing the soil from around the main support roots on the drive side and testing the roots for strength loss should give sufficient information to determine potential root failure.

Trees that have open cavities, loose bark with decay beneath them, trees that go into the ground like a telephone pole, and trees that have old vertical cracks all need to be investigated for percent of sound wood loss. Soil needs to be cleared away from the bases of all trees to expose the root crown [collar]. This is where girdling roots are hidden and decay starts from suffocation of covered trunk bark. Mature trees should be treated for insects, and fertilization would help preserve and prolong the life of these trees.



Central Avenue vault tombs

Volunteer Growth

Issues

Most volunteer growth is associated directly with mound tomb and vault structures where invasive roots are causing damage.

Recommendations

Remove volunteer growth.

Lawns

Issues

Lawns were in fair to poor condition with erosion, bare spots, some herbaceous weeds and moss in numerous locations. Lawns are cared for by a dedicated cemetery crew. A slow release low nitrogen fertilizer is reportedly applied annually.

Recommendations

Repair lawn areas. Continue fertilization program.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

The cemetery is accessible to pedestrians from Walnut Street through a chained and padlocked pedestrian gate with a 27" clear opening which is too narrow for universal accessibility. It is adjacent to a wider vehicular gate. The bituminous concrete walk along Walnut Street may be accessible but one is confronted with an unpaved steep slope once inside the gate. There are no paved paths inside.

Recommendations

No changes are recommended.

Vehicular Access

Issues

Service vehicles access the cemetery from Walnut Street through the inward swinging, double leaf gate with a 10'-6" clear opening.

Recommendations

This access procedure appears acceptable.

Security

Issues

Security is apparent, but not assured because the vehicular gate is chained but not locked. With a height of about 4', much of the wall along Walnut Street is scalable. There are also two breaches in the perimeter chain link fence.

Recommendations

Although vandalism is not a current issue, consideration should be given to keeping the gate locked except for requested openings. Valuable artifacts like the family plot fencing are often targets of theft. Repair the breaches in the fence.

VANDALISM

Issues

Little vandalism has been reported in recent years. A small amount of trash and debris was found on the site including an inflatable snow sled. There was however evidence of vandalism from another time. This included broken grave markers, improperly reset markers and bases with missing markers.

Recommendations

Vandalism is not a significant problem and no changes are recommended at this time other than grave marker repair.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

The drive and path system were laid out c. 1840 with an apparent attempt to connect the old portion of the cemetery with an area of expansion. The south side consists of 4 interconnected parallel east-west routes while the older 3 north side routes tend to converge near the Pierce mound tomb, where the original entrance was most likely located.

Recommendations

No changes are recommended. If the original entrance is determined to be where it is assumed above, some form of notation should be made on the cemetery side of the wall to help visitors understand this part of the path system.

Walks

Issues

The path system is clearly apparent even though most of it is currently lawn. Some routes are steep and narrow, particularly getting to Ridge Avenue.

Recommendations

The path system should remain as it is.

Steps

Issues

There are 9 sets of steps with a total of 36 treads related to family plots throughout the cemetery. Most are granite and one is constructed of field stones. Two of the steps are edged. Three of the sets of steps [with 3, 4 and 5 treads] have shifted somewhat, resulting in variation in riser height and in overall tread levelness. Most appear to be dry laid directly on the ground surface and could easily be reset.

Recommendations

The various site steps should be reset. To the extent that the foundations for these elements are probably loose stones, they should be removed and a concrete foundation cast to keep the stone elements level and plumb. The two materials can be joined with concealed stainless steel dowels.

Pavement Materials

Issues

Circulation routes are covered with grass and/or gravel with remnants of macadam or bituminous concrete on drives. There is a small area of this remnant pavement near the southwest corner and a larger one near the southeast corner.

Recommendations

Surface materials should remain grass until visitation reaches the point where it is no longer practical to maintain lawn. At that time a paved path system should be considered. Gravel surfaces should be replaced with lawn. Remnants of macadam surfaces should remain, but not be improved.

GRAVE MARKERS

Headstones and Footstones

Issues

The collection of about 200 grave markers includes the full range of stone types and problems. About 40-50% of the memorials are marble, another 30 to 40% are granite, some 20 to 25% are slate, and a few, perhaps 5%, are sandstone. There are a number of marble and red granite obelisks. There is a concern that some markers and plots may have been lost in the c. 1840 restructuring of the burial ground.

A brief examination found: 2 broken marble and 1 broken slate that appeared repairable, although many others had missing pieces; 7 bases with missing markers; 3 delaminating slate markers; 2 toppled marble obelisks, 12 toppled marble markers and 3 toppled slate markers; 3 leaning marble obelisks and 1 leaning granite obelisk; 24 leaning marble, 10 leaning slate and 1 leaning granite marker; 1 marble obelisk and 2 granite markers need to be reset square with their bases; settlement at the base of a larger marker; and 1 buried stone and 6 flush markers becoming covered with sediment and grass.

Both iron and bronze pins were evident in the toppled and shifted stones. Slate and sandstone markers exhibit varying degrees of peeling and splitting. Most of the marble markers are quite weathered, with eroded, often illegible surfaces and some biological encrustation.

Raised lead letters embedded in stone, often found in British cemeteries, were used in the Ogden monument, which notes that the body is buried in Bath, England. Two bronze plaques, one on a pudding stone marker and another above a mound tomb vault, need conservation.

Recommendations

Reset all toppled and tilted root stones [having no base or foundation], using sufficient gravel for drainage and reduced frost heave. Reset all toppled stones on deeper and perhaps larger foundations beneath the base stones. These stones should be repinned with non-corroding pins. The pins should be set in lead, and lead strip used to fill the joint between the memorial stone and the base stone. Under no circumstances should caulk be used in resetting two part stones.

Stones that have vertical splits or are about to delaminate present difficult conservation issues. Neither mortar nor adhesives should not be used to reattach peeling stone, as hard material inserted between layers will act as a wedge, applying pressure that will continue the splitting process. Consideration should be given to having an experienced stone conservator make a cementitious profile cap that covers the skyward edge, limiting intrusion of rain and snow into the stone and movement of the stone layers. Earlier attempts in downtown Boston cemeteries using such caps in bronze and iron have proved mechanically stable, but corrosion stains on the marker can be unsightly.

Tarnished bronze plaques should be cleaned and conserved.

The installation of small, discrete, at grade, in ground markers designating family plot boundaries is encouraged.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

The street retaining walls are deteriorated in a similar manner. While generally intact, the mortar is extensively cracked, loose or missing, and at one point along Walnut Street there is a significant outward bulge.

The retaining wall along Walnut Street consists of random sized, roughly dressed pudding stones capped with granite slabs. The wall height ranges from 4' at the entrance gates at the northwest corner of the cemetery to 7' at the northeast corner at Chestnut Road. The heavily mortared joints have a raised bead, a decorative device intended to distract the eye away from the random width of the joint. However, the mortar joints are extensively cracked, loose and missing.

Overall, the rough textured wall is plumb and intact but individual stones have shifted or have fallen out of the wall. The granite capstones have also shifted about. Some of the head joints are mortared and others are filled with lead. At one location about 50' from the Chestnut Road corner, there is a significant outward bulge in the wall. It is not apparent whether this is due to a current shifting of the earth behind the wall or whether this is an old but stable distortion.

The Chestnut Road retaining wall is newer than the Walnut Street wall. Consisting of dressed granite units tightly fitted together in a broken ashlar pattern, the mortar joints are narrow and generally intact. However, this wall may be so tightly constructed that water from the hill behind the wall becomes trapped, resulting in moisture seeping through the mortar joints to escape. Evidence of this activity is the leachate stains and moss on the face of the wall. The granite slabs capping the wall are well set, but the joints are open and need to be repointed.

The retaining walls need urgent maintenance in order to preserve their present stability. Because of the earth retained on one side, the backsides of the walls are constantly exposed to moisture infiltration. They are also exposed to moisture infiltration at their top surfaces because of the imperfect barrier of the capstones. The capstones have no drip edges to prevent water from getting under the stones and the failed head joints allow water to enter directly from the top. The lead filled joints on the Walnut Street wall appear to be an unsuccessful attempt to seal the head joints.

There is no simple way to protect the top of the walls from moisture infiltration. Through wall flashing is probably the best technical method, but it is often aesthetically undesirable because of the visible edges and seams. Head and bed joints can be sealed with a flexible material but exceptional quality control during installation is needed to prevent premature failure [separation and tearing] and to achieve permanent colors that match surrounding stone and mortar colors. Repointing the joints with mortar is satisfactory in the short term but periodic maintenance is needed to keep up with the inevitable cracking that will occur in a large outdoor structure subject to wide variations in temperature and moisture exposure.

Recommendations

Repoint the Walnut Street retaining wall in its entirety. Reset missing stones. Remove and reset the capstones using two stainless steel pins between the capstones and wall stones. Set the capstones in full mortar beds and provide fully mortared head joints. Properly installed sealant may be added to raked mortared joints at the capstones. Weep holes should be added near the base of the walls including the wall on Chestnut Road, using copper, black iron or black PVC pipes. For aesthetic purposes, white PVC should not be used.

At the Walnut Street wall suspend a plumb bob from the edge of the capstone at the location of the bulge and mark its point on the sidewalk with paint. Repeat plumb bob observations once a month for at least a year. If any additional movement occurs, the bulged area should be dismantled and rebuilt. If no movement occurs, the area should be repointed like the rest of the wall.

Interior Walls

Issues

There is a 2 to 3' high pudding stone retaining wall near the top of the hill separating lots between Ridge Avenue and Cedar Avenue. This wall is severely disrupted. Individual stones are missing, many stones units are displaced, almost all of the mortar is broken or missing, vegetation has rooted in and around the stones, and a short section of the wall near the eastern end is missing. Restoration of this wall would essentially involve dismantling and rebuilding it. There is also a short wall at the Shepard family plot.

Recommendations

Dismantle and rebuild the retaining wall. This can be either dry laid or mortared, but weep holes should be installed if the wall is mortared.

Mound Tomb and Vault Structures

Issues

There are 20 visible tomb structures as well as two buried vaults near the southwest corner where the tops of brick arches can be seen at the surface. One appears to have a slate door. Of the visible tomb structures, there is a row of 12 facing Central Avenue, a row of 6 facing Boylston Avenue, one facing the end of Goddard Avenue and backing onto Walnut Street and one facing south on Broad Avenue. Most are in early stages of deterioration due to moisture infiltration and freeze-thaw action. That is, the structures as a whole are intact but individual stone and brick elements are displaced and mortar is severely cracked or missing.

Central Avenue Tombs: There are 12 tombs along the central valley of the cemetery. The front walls of the 6 at the eastern end are built of large, dressed, gray granite units to form a continuous wall with only small jambs and lintels at each door. The first 3 of the 6 are generally intact although they need some mortar repointing. The capstone level of the second 3 tombs is 4" lower than the first 3 and the top 2 courses of stone lean outward. This leaning condition appears to be old insofar as there is no soil subsidence behind the wall and there are two iron or steel tie rods anchoring the stones. Several of the bed joints are filled with lead sheets. It is unclear whether this was a repair or part of the original construction. The malleability of the lead makes it useful as a sealant if it is squeezed between two materials. The granite capstones are generally seated well and with little relative displacement. Iron staples tie the capstones together end to end but many of the staples are missing.

The front walls of the remaining 6 tombs are built of brick with stone lintels and jambs at the doors. The last tomb is higher than its 4 neighbors. Although these tombs appear to be within one continuous wall, there are vertical stack bond joints between each tomb. If the exposed sidewall at the last tomb is typical of all of the brick tombs, then the roofs are brick barrel arches. Although there is some minor bulging and leaning in the brick walls, there is little displacement and disruption of individual bricks. The worst disruption occurs at the last vault, where the side wall is exposed, the arch and several courses of the wall are disrupted and many bricks are missing. Except for some rebuilding at this location, about 30% of the overall brick work needs to be repointed.

Boylston Avenue Tombs: There are six tombs facing Boylston Avenue with an 1864 receiving tomb at the west end. Dating from about 1808, they vary in size and construction. The fronts of the two at the western end are constructed of random ashlar [consisting of a tan granite or pudding stone] with gray granite jambs, lintels and capstones. There is only minor displacement in the stonework but localized areas of mortar joints are severely deteriorated. There is evidence of past, partial repointing efforts. The original joints were scratched to create a straight 3/8" wide joint within the overall random mortar joint width. Overall, the stonework is plumb and level and there is no earth erosion on the exposed west end.

The fronts of the third and fourth tombs [the 1808 Capt. Timothy Corey's family tomb and 1808 Joseph and Benjamin Goddards tomb] are constructed of dressed, gray granite units assembled to form jambs, walls, bases and heavy lintels. One door opening is bricked up and the other has a white marble family marker. The mortar joints between the stone units are cracked, loose and missing. Some of the wall units are slightly out of plumb but are level. The base units sit on a foundation of fieldstone. Vegetation grows in and around the stonework.

The fifth tomb [Andem/Kendall] is similar in appearance to the third and fourth but it is 6" lower. Several of the granite wall units have shifted in and out about 1/2". The door opening is bricked up.

The front of the sixth tomb is also built of dressed, gray granite units but they are different in style from the third, fourth and fifth tombs. The lintel is much more shallow and perhaps its lighter weight failed to prevent the front walls from tilting outward. The bricked up door opening was partially open, allowing a view of the vault interior. Roof construction consists of 6" thick granite slabs. The roof is covered with a stoney fill about 12" thick and a layer of loam about 3 or 4" thick. The interior walls are built of angular, random sized stones that appear to be intact. A closer inspection may reveal that repointing is needed.

Rev. John Pierce Tomb: The Pierce tomb is an isolated mound tomb having a brick front and stone side walls. The earth mound is in good condition and there is no erosion. However, some of the stones on the western side have been pried apart by shrubs rooted into the stones. The capstones and the upper 5 or 6 courses of the brick front are loose and need to be rebuilt or repointed. While the lower courses are intact, there is evidence of past maintenance in the presence of 3 or 4 different styles of brick. The back of this tomb is visible in the Walnut Street retaining wall, consisting of 3 dressed granite courses within the pudding stone of the wall.

Broad Avenue Tomb: There is a modest stone tomb at the western end of Broad Avenue corresponding with the Howe plot. The side walls are partially exposed. The west corner is intact but heavily mortared while the east corner has many open joints and shifted units. The lintel stone is rotated from root invasion.

Arches: The crowns of two brick arches are nearly flush with the ground on Broad Avenue at about the location of the First Parish and Baptist Society plots. These arches appear to be tops of mound tombs. There is no evidence of any mounds at these locations but the arches may be remnants of collapsed tombs that were once present at this location. Their extent and character could be verified with excavation around these areas with an archaeologist present.

Recommendations

The following work should be performed at tomb vaults, assuming that they no longer contain any human remains.

Undisturbed front walls should be repointed and disrupted front walls should be dismantled and reassembled. When the walls are reassembled, they should be pinned to the roof and sidewall construction to prevent future independent movement.

Doors should be opened so that interiors can be inspected. Intact interiors should be left alone. Disrupted interiors should be pointed or rebuilt provided that the source of disruption, usually water, is removed. This may require uncovering the vault and repairing or waterproofing the top side of the vault.

Unless the leaning walls of the 3 vaults on Central Avenue have acquired a "historic" character, they should be dismantled and reassembled plumb. It should be verified whether there is any earth being retained by these walls. The walls should be repinned to the roof and sidewalls of the vaults.

Because brick is a poor material for retaining moist earth, the doors should be opened to verify whether the interior is rectangular or arched. If the brick wall does retain earth, it should be waterproofed on the backside. If not, periodic repointing and a surface sealer will maintain the integrity of the brickwork.

Remove invasive vegetation impinging on the front walls.

Doors at Mound Tombs and Vaults

Issues

Two iron doors are intact, one at the receiving tomb with a door knocker and a contemporary padlock. The other is on one of the Central Avenue tombs. The rest are bricked or blocked in. Numerous hinge and latch pins remain.

Recommendations

Many of the iron entrance doors at mound tombs are missing or they have deteriorated to such an extent that masonry replacements have been installed. A visually similar, unobtrusive, standard painted steel or cast iron plate, secured to the masonry with expansion bolts, should be used. A paint study should be performed on the doors to determine if green or black is the appropriate historic color. The padlock should be changed to one with a more appropriate historic character.

Edging of Family Plots

Issues

Quarter round granite edging along Broad Avenue for the Goddard and Chase family plots has rotated and shifted. The simple granite edge for the Leonard family plot appears stable. A number of granite plot boundary markers define two plots on the west side. There are few elsewhere. An iron plot boundary marker was found near the center of the site.

Recommendations

The edging should be reset on a more permanent foundation. To the extent that the foundations for these elements are probably loose stones, they should be removed and a concrete foundation cast to keep the stone elements level and plumb. The two materials can be joined with concealed stainless steel dowels.



Cook family plot fence detail

FENCES AND GATES

Iron Fences and Gates

Issues

There is an inward swinging, double leaf iron picket vehicular gate and a single leaf pedestrian gate supported on 12" square by 5' high granite posts at the Walnut Street entrance. The gate construction is somewhat unusual with 1/4" thick by 1-1/2" wide vertical pickets and 1/2" thick by 2-1/2" wide horizontal members. Hinges for the vehicular gate are mounted on the rear of the support post allowing unobstructed entry, while the pedestrian gate hinges are mounted on the sides of the post. The westernmost granite post is leaning out of vertical. The paint finish on the gates is in good condition, but two of the pickets in the vehicular gate are bent.

Recommendations

Reset the granite support post to vertical position and straighten bent pickets.

Interior Fences and Gates at Family Plots

Issues

Two family plots have unique but deteriorating ornamental iron fence enclosures. The Cook family plot at the high point of Ridge Avenue has a circular enclosure of granite posts and iron fences. It has 12 slender granite posts with rounded tops. One is left that is almost intact. The rest are split and many tops are missing. There were 10 sections of iron fence with a winged hour glass [time flies] motif. Three of the five remaining sections are almost completely intact. The section facing the end of Ridge Avenue probably had a gate or 3 cast iron bollards like those found at the northwest corner facing an unnamed avenue leading to the cemetery entrance.

The Foster family plot has an iron fence enclosure with a wood post and bent twig motif. The fence sections appear to have been molded because they are only finished on one side. The enclosure is three sided with 6 sections of fence and a gate. The gate is missing, one fence section is missing and another is leaning.

Recommendations

Restore these beautiful and unique fences and gates.

Chain Link Fences

Issues

Three sides of the perimeter are enclosed with six foot high chain link fence. It has top rails and center rails at the corners. The fabric is heavily rusted. The top rails, H section and tubular section posts are not quite as corroded. The fence is generally stable.

On the west side there is a breach at about the middle of the length of fence. Erosion at same location has exposed the concrete foundations of the fence posts. On the south side, there are two bent top rails near the southwest corner apparently caused by falling tree limbs. On the northeast side near the intersection with the south east side, one section of fabric about 10 feet long has been peeled back adjacent to a tree growing into the fabric. The north end of the fence has a quarter circle fence guard with barbed wire at the top of wall.

Recommendations

Repair the two breaches in the fence as soon as possible. Consider replacing the fence in the next ten years with a black vinyl coated chain link fence.

SITE AMENITIES

Signs

Issues

No signs of any type were found.

Recommendations

An identification sign should be added near the entrance with some basic rules and regulations. If more visitation is anticipated, informational and/or interpretive signs should be considered.

Other











Issues

There are no seating, trash receptacles or flagpoles in the cemetery.

Recommendations

Do not add these elements.

LEGEND

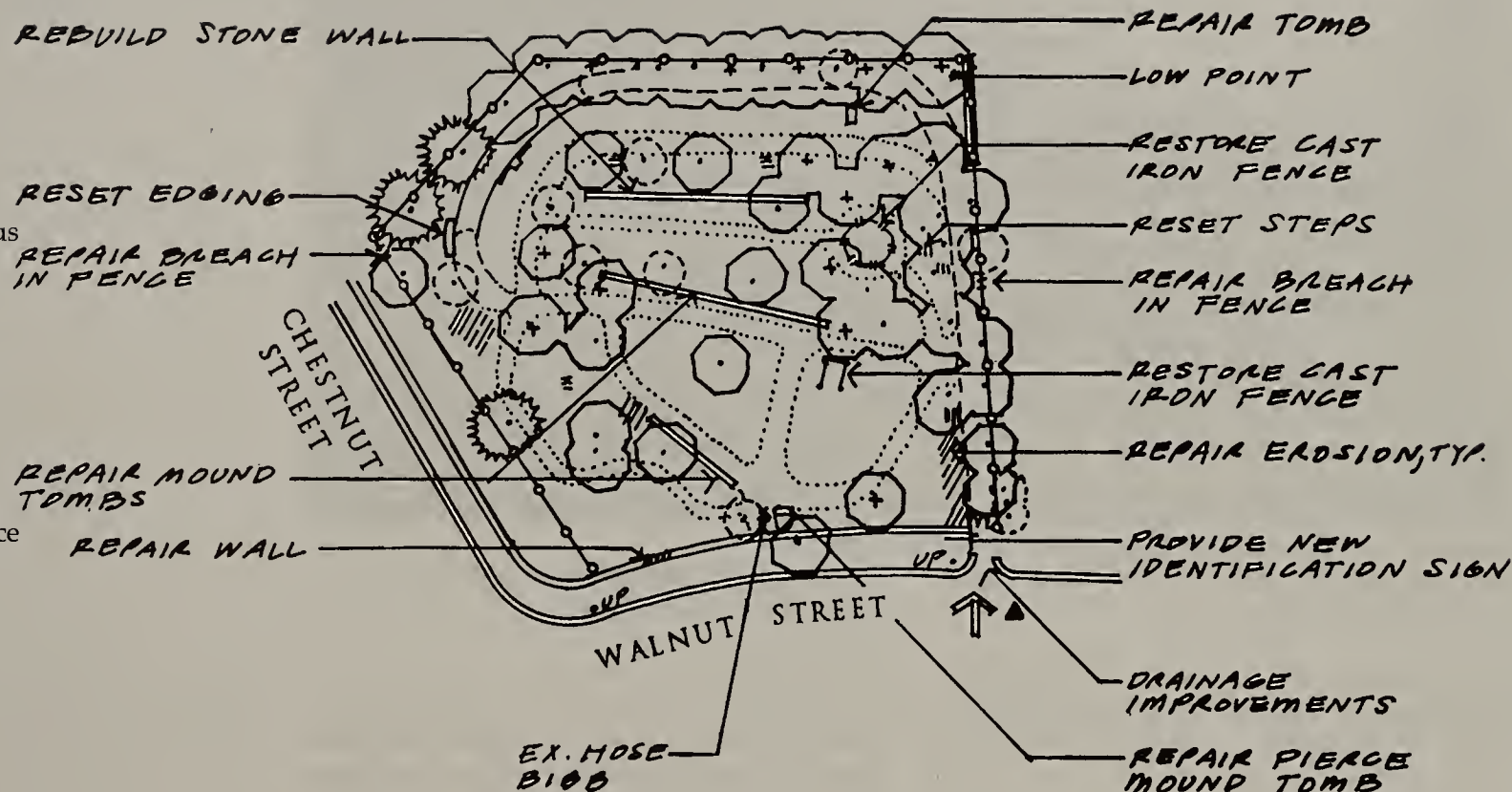
-  Existing Deciduous / Evergreen Tree
-  Remove Existing Tree
-  New Tree
-  Pedestrian / Vehicular / Entrance
-  Repair Erosion
-  Asphalt Path
-  Lawn Path
-  Stone Wall w / Chain Link Fence
-  Chain Link Fence
-  Ex. Utility Pole



NORTH

NOVEMBER 1999 1" = 100'

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST



WALNUT STREET CEMETERY PRESERVATION PLAN BROOKLINE, MA

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

UTILITIES

Drainage

Issues

No drainage structures were found inside the cemetery. All drainage flows over the surface toward the southwest corner. No puddling was evident. It was apparent that during heavy rains surface drainage from Walnut Street enters the site through the gate and has been the cause of the erosion on the west portion of Broad Avenue.

Recommendations

Improve the entrance conditions on Walnut Avenue including the private drive entrance immediately west of the cemetery entrance by raising the street curb and ramping up both drive entrances to prevent street drainage from entering the site.

Water Supply

Issues

One hose bibb was found at the Walnut Street end of Goddard Avenue.

Recommendations

Verify that the hose bibb is functional. Do not add additional water.

Lighting

Issues

There are no light fixtures inside the cemetery. Street lights are on the utility poles along the Walnut Street edge.

Recommendations

Do not add light fixtures.

PRIORITIES

High Priority

- Stone conservation including resetting and repair of slate markers and pin replacement in marbles that are visibly cracked or spalled
- Hazardous tree evaluation
- Vegetative removals and pruning
- Perimeter fence repair
- Interior fence restoration
- Repair of structural items like perimeter and interior walls, and mound tomb and vault structures
- Erosion and lawn repairs
- Identification sign placement.

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base
- Restoration and replacement of iron tomb doors
- Resetting steps and family plot edging
- Vehicular gate repair
- Fertilization of trees.

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Informational and interpretive signs
- Additional planting
- Chain link fence replacement
- Addition of family plot boundary markers

National Register Status: *Inventoried,
Recommended Eligible*

Current Management: *Cemetery Commission*

Status: *Active*

Condition: *Good*



Entrance gateway and wall along Wales Road, Route 19

CENTER CEMETERY

BRIMFIELD, 1720

The historic component of this 14.5 acre active cemetery is about 3 acres. About 1/3 of the parcel is yet to be developed. Located just south of the town center and across the road from an elementary school, the gently sloping open terrain has a shallow ridge running north-south near the center of the cemetery.

Incorporated in 1730, the community began to develop in 1701, mostly by residents of Springfield. Brimfield was laid out in 1714. Land was set aside for a cemetery in 1721, southeast of Tower Hill Road. Also known as Center Burying Ground, the site was cleared and leveled by subscription of the townspeople in 1750 and the stone wall was built around it in 1780. The site was enlarged in 1845 and 1860. The stone wall along the street was erected in 1928.

The oldest part of the cemetery is north of the northernmost drive where most of the slate and sandstone markers are located. The central area south of that tends to have more grandiose Victorian components and more marble markers. Most of the obelisks are also in this area. Development south and east of this area is the most recent.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The site is generally open with wooded edges along the eastern perimeter. The line of Maple street trees along Wales Road is broken and incomplete. A concentration of mature evergreen trees, mostly Spruce, has been planted in the old north section. The central section is divided by a double row of Maples edging a north-south grass path.

Recommendations

The general landscape character is appropriate with a few recommended modifications. The line of Maples along Wales Road should be reinforced. A number of the evergreen trees in the older north section should be removed to increase the amount of light reaching the ground, reducing moisture retention in the older slate markers. In a cemetery of this size, the addition of more trees in the newer central and southern sections would help break up the vastness of the space. These trees should preferably be different species than those already on site to provide some botanic diversity.

A long term goal should be to open up the older north section such that it presents more of the landscape character that it had when it was active. Similarly, the Victorian central section should have a greater variety and diversity of plant material that is more representative of the era when this portion of the cemetery was active.

Planting

Issues

The interior of the site contains 46 trees. There are 17 Maples along the west wall. The north area has 11 Spruce, 1 large Oak and 2 Cedar. The central area has 10 older Maples in an alternating double row and 5 other Maples. Arborvitae create a screen on part of the east side. There are few shrubs including a mass of Forsythia in the northwest corner at the site of the former hearse house and 2 Junipers at the north entrance. The trees are generally in good condition. Limbing up of the trees is performed by cemetery staff. High tree work is done by outside contract.

Recommendations

No improvements are recommended.

Volunteer Growth

Issues

Volunteer growth is well controlled and exists primarily outside the cultivated area. A volunteer at the northwest corner post should be removed.

Recommendations

Remove the noted volunteer growth.

Lawns

Issues

Lawns are well maintained and generally in good condition. Maintenance of the grounds is provided by cemetery staff.

Recommendations

Repair lawn areas as required. Lawns should receive an annual application of fertilizer to sustain a reasonable level of health.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Although the site slopes gently, there are no paved paths inside the cemetery. This limits universal access. Pedestrians rely on sharing vehicular access routes. With no defined parking areas, parking occurs on or adjacent to the one lane drives inside the cemetery.

Recommendations

No changes are recommended for pedestrian access. Universal access should continue to rely of vehicular access routes.

Vehicular Access

Issues

There are five points of vehicular access from Wales Road, Route 19, each with a 14' clear opening. There is also one point of access from Sturbridge Road, Route 20, although the latter is locked.

Recommendations

This system appears more than sufficient for the visitation requirements and no changes are recommended.

Security

Issues

The site is essentially open. The five primary vehicular access points are not gated. Perimeter walls are relatively low and easily scaled.

Recommendations

Security is apparently not an issue on this property and improved measures should not be pursued at this time.

VANDALISM

Issues

Little of the impacts of vandalism are evident. The causes of toppled and broken stones, most of which appear to have been in that condition for some time, could be numerous.

Recommendations

Vandalism does not appear to be a significant problem and no changes are recommended.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

The five east-west roads connect to one north-south road on the east side of the property in essentially a grid system. A deteriorated drive along the northeast corner to the tool shed is mostly grass along the inside of the east wall.

Recommendations

No changes to the circulation system are recommended at this time.

Walks

Issues

While there are no paved walks inside the cemetery, an apparent north-south grass path extends through the central portion of the cemetery. A bituminous walk along the public Wales Road is located outside the cemetery wall.

Recommendations

No changes are recommended at this time.

Steps

Issues

The only steps inside the cemetery are related to two family plots and they are in good condition.

Recommendations

No improvements are recommended.

Roads

Issues

Paved drives, approximately 11' feet wide, provide access throughout.

Recommendations

No improvements are recommended.



Trees and wall along Wales Road, Route 19

Pavement Materials

Issues

Bituminous concrete is the only pavement material here and it is in fair to good condition with some cracks.

Recommendations

Provide crack repairs as necessary. The roads should be resurfaced within 10 years. Assuming the site is snow plowed, paved surfaces should remain in bituminous concrete.

GRAVE MARKERS

Headstones and Footstones

Issues

Because the cemetery opened in the 18th century and has remained active with periodic expansion, it contains the full gamut of grave markers from slate and sandstone to marble and granite. Each material is generally grouped in areas corresponding with specific expansion periods.

There are quite a number of brownstone markers with at least five marking the burial sites of Revolutionary War soldiers. Approximately 50 obelisks are located in the central area, including at least five brownstone obelisks.

The older stones need cleaning and repair due to deterioration, breakage, base failures, lichen, atmospheric contamination and delamination. Relatively little damage from lawn maintenance operations was observed. A number of the marble markers are exhibiting the deleterious effects of acid rain. But most are relatively sound, without severe "sugaring" on the surface. All of the brownstone, especially the obelisks, is affected by gray and yellow lichen. Gray lichen is also growing on the cut lettering on a number of granite markers. A 1997 proposal by Fannin-Lehner indicated that 165 grave markers required conservation. Damaged gravestones are stored in the receiving tomb.

Recommendations

Proceed with a grave marker conservation program, like that proposed by Fannin-Lehner, beginning with the older slate markers and marble markers that have visibly cracked or spalled at the junction of the base and upper stones. A conservation biocide treatment should be considered for the rare and old brownstone and marble markers. Marble markers that are in danger of becoming illegible should have the highest priority for conservation treatment. Reset all toppled markers. Continue the stone conservation program with the other less visibly damaged markers.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

Wales Road wall: These distinctive walls and gateways along the road on the west side of the cemetery were built in 1928 by the Brimfield Woman's Business Club. Two of the stone arched gateways were erected from the bequest of Frances Parker Bliss in the same year. Although the wall is visually coherent, it is clear that the wall was constructed at three different times, with the southernmost portion built in 1966.

The walls and gateways are constructed of mortared round fieldstones. The wall has a 27" wide precast concrete cap with a shallow pitched top and no drip edge. The top of the wall appears to be set level and the height varies from 34" to 54". The ends of the walls and other gateways are punctuated with 6' high 36" square posts of similar construction with precast concrete globes at the top.

Variations in surface appearance are due more to repairs than aging and weathering. The wall cap has numerous localized areas of damage, particularly near joints in the cap. The damage may be indicative that the width of the cap expansion joints may be too narrow or the compressible filler has become hardened. Most areas have been repaired. The top of the cap has been parged in part, with some areas scaling off. Hairline cracks are evident in many locations of the pointed wall face. The sidewalk has settled outside the wall adjacent to the center section of the wall, exposing the wall's stone foundation. Walls are maintained by cemetery staff.

Other perimeter walls: A dry laid fieldstone wall in the apparent location of the 1780 wall forms the north and northeast edges. The height varies from 12" to 36", with a typical height of about 30".

Recommendations

Minor repointing is required throughout the Wales Road wall. Repair work should be done in a manner that fully respects the original materials. Repointing mortar should be compatible with historic mortar in color, texture [aggregate, surface finish and joint profile] and strength. Care should be exercised so as not to use a hard mortar and not to cover stones with mortar. Expansion joints should be rebuilt with a resilient compressible filler.

Edging of Family Plots

Issues

Three of the family plots are edged. Two of them are centrally located on the west side facing Wales Road. Both have two granite steps up to the plots. The Wales plot with a marble obelisk has granite edging on one side and sculpted granite posts on the other corners. The Sherman plot with a granite obelisk has granite edging and raised granite posts holding cast iron rails. The Blodgett family plot in the northeast corner of the site has raised granite posts and a granite threshold on the west side. The edging appears in good condition.

Recommendations

No improvements are recommended.

BUILDINGS










Issues

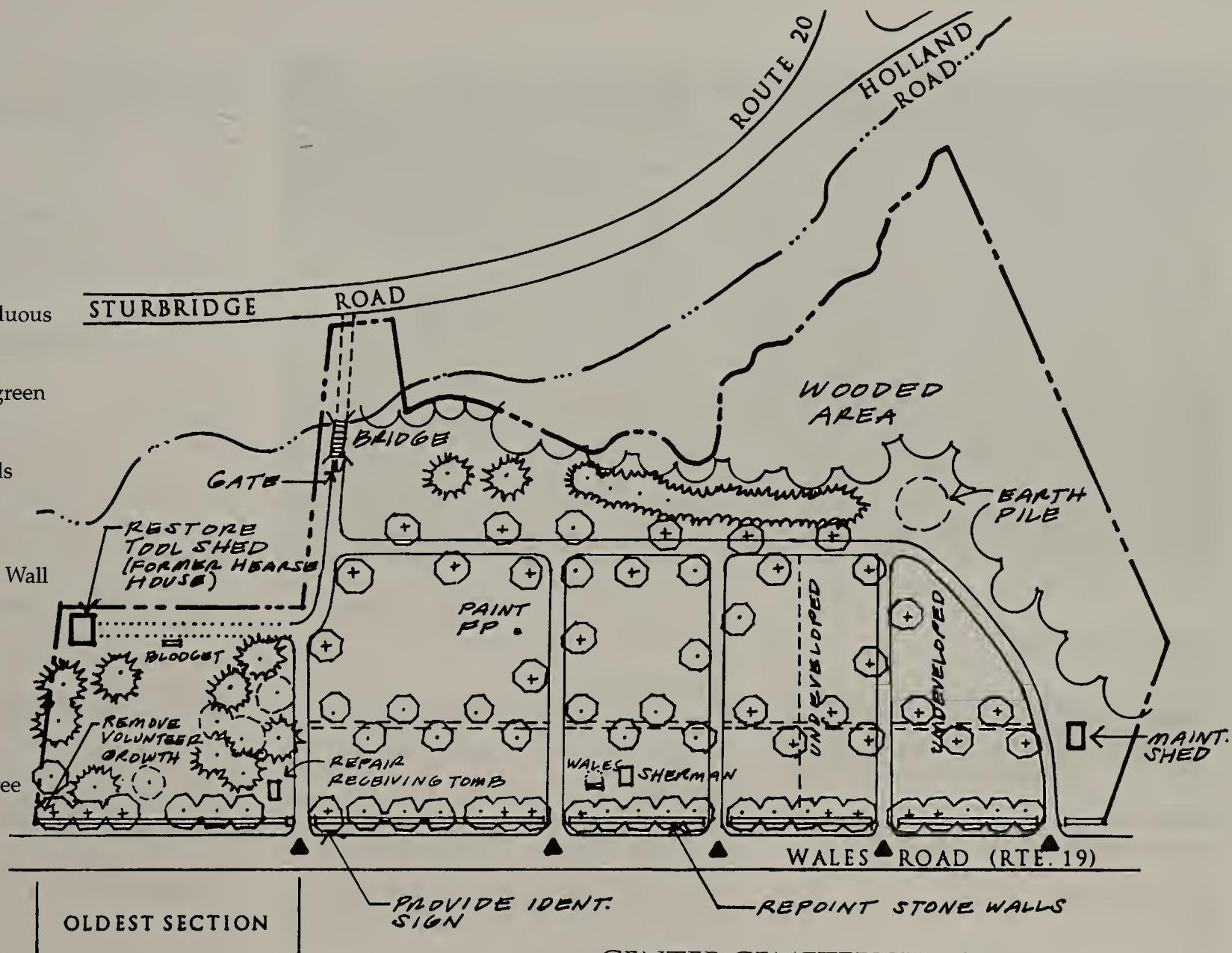
A wood shed at the northeast corner once served as the hearse house. Moved to this location from near the northwest corner it is now used for tool storage. It is about the size of a one car garage. The structure has both the typical Gothic Revival board and batten cladding, and cut nails, strongly suggesting a c. 1845 date. It needs to be made weather tight and structurally sound.

A free standing receiving tomb is sited just north of the north entrance. Added at some point in the 19th century, the tomb is constructed of parged concrete with a barrel vaulted roof covered with standing seam copper. Deterioration is evident at the bottom edges of the copper as well as in some areas of the concrete base. The door appears relatively new with a marble frame.

A concrete block maintenance building, about 10 years old, with an asphalt shingle roof is sited at the southern edge.

LEGEND

-  Existing Deciduous Tree
-  Existing Evergreen Tree
-  Existing Woods
-  New Tree
-  Existing Stone Wall
-  Entrance
-  Flagpole
-  Property Line
-  Remove Ex. Tree



CENTER CEMETERY PRESERVATION PLAN BRIMFIELD, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

NORTH

NOVEMBER 1999
1" = 200'

Recommendations

As the oldest structure in the cemetery, the former hearse house should be restored. These small vernacular buildings are particularly important to preserve, as most are now gone. Survey the building to determine which structural timbers and other materials date from the original construction. Identify and conserve those which may still serve their purposes. Replace only the elements which can no longer function as intended, even with repairs in kind. Insure that the work is performed by an architectural conservator in conjunction with a preservation carpenter. Paint the building with a researched original, or period appropriate, color scheme.

The roof and exterior walls of the receiving tomb should be repaired. The maintenance building is apparently adequate for the needs of the cemetery and no changes are recommended.

FENCES AND GATES

Wood Gate

Issues

A pressure treated wood gate at the bridge in the northeast corner of the site appears in good condition. It is chained and padlocked closed.

Recommendations

No improvements are recommended.

SITE AMENITIES

Signs

Issues

A bronze commemorative sign is secured to the northernmost arched entrance providing information on the construction of the front wall and arched gates. Another small metal sign at the bridge announces that the bridge is closed. There is no identification sign for the cemetery.

Recommendations

Provide an identification sign outside the northernmost entrance. It would be beneficial to add informational and/or interpretive signs. Clean and protective coat the bronze commemorative sign. Consider repatination.

Trash Receptacles and Seating

Issues

There are no trash receptacles or seating elements.

Recommendations

Do not provide seating and trash receptacles inside the cemetery.

Flagpoles

Issues

A white painted 35' high steel flagpole with some rust evident is near the center of the site. It was erected as a memorial to Ernest G. Roberts, 1903-1971.

Recommendations

Prepare, prime and paint the flagpole.

UTILITIES

Drainage

Issues

No drainage structures are evident. The site drains on the surface with a gentle slope toward the east. An earth pile is located at the southeast corner, away from the developed area of the site.

Recommendations

No changes are recommended. Monitor the earth pile for erosion.

Water Supply

Issues

Hose bibbs mounted on precast concrete posts are provided throughout the cemetery.

Recommendations

No changes are recommended.

Lighting

Issues

No light fixtures were observed inside the cemetery. Some residual light is available from the adjacent road on the west side.

Recommendations

Do not provide additional lighting.

PRIORITIES

High Priority

- Stone conservation including resetting and repair of slate markers, pin replacement in marbles that are visibly cracked or spalled, and conservation of marble markers that are in danger of becoming illegible
- Vegetation removals
- Repair of structural items like perimeter walls and the receiving tomb
- Restore former hearse house
- Lawn repairs
- Identification sign placement

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base
- Repair of roads and flagpole
- Fertilization of trees

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Informational and interpretive signs
- Additional planting
- Resurface roads

National Register Status: *Inventoried,
Recommended Eligible*
Current Management: *Cemetery Commission*
Status: *Inactive*
Condition: *Fair*



Rogers Monument

OLD BURYING GROUNDS

LITTLETON, 1721

Close to the town common and village, this inactive burial ground was established in 1721 and served as the first town burying place. Enclosed by perimeter stone walls and over an acre in size, the gently sloping rectangular site has a steep slope at the rear that drops about 20 feet. Residential uses border the site at the southwest and southeast corners on King Street as well as to the north with conservation land beyond. An apparent commercial storage yard to the northwest is screened by a solid wood fence. A low one story gray concrete block commercial building abuts the site at the center of the east side, influencing the visual appearance of the burial ground.

The burial ground contains the graves of pre-Revolutionary prominent early settlers, the first two town ministers [Reverends Benjamin Shattuck and Daniel Rogers] and 19 Revolutionary War veterans including Luther Blanchard, the first man shot at the April 14th Battle of Old North Bridge. While the monument is to Revolutionary heroes Calvin and Luther Blanchard, only the graves of Calvin and his wife are here. The burial place of Luther, who died as a result of a wound received in the battle, is uncertain. The 16 pre-Revolutionary graves are located near the front gate.

The period of significance of the burial ground is from 1721 to 1896. The other public cemetery in Littleton is Westlawn Cemetery. It was created in 1809 and remains in active use.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The burial ground is heavily vegetated for a site of this period. Most of them had little, if any, vegetation when they were developed. Today tree cover is mostly mature and approximately 2/3 evergreen and 1/3 deciduous which is somewhat unusual. The year round shade created by the evergreens is a contributing factor to the biological growth on many of the grave markers. The condition of the formal double row of large White Pines is a concern.

About half of the trees inventoried are White Pine [22] with 9 Sugar Maple, 6 Red Cedar, 2 Linden, 2 Black Cherry, 1 Black Oak and 1 White Cedar. Trees and brush in the rear section were not inventoried because they are recommended for removal. A dead 20' tall, 26" diameter tree in the corner of the west rear section was also not included because it also needs to be removed to prevent personal injury. Two large White Pine in the west row at the front of the site approaching from King Street have extensive amount of decay in their main stems [trunks] because large branches failed some years ago opening very large wounds for fungi to invade. Immediate removal of these two hazardous trees was recommended on 16 April 1999.

Recommendations

In general the visual character of the site should be more open to better reflect the period of its historic origin, improve the conditions to maintain lawn and reduce the impacts of biological growth on grave markers. A total of 21 inventoried trees should be removed: 14 White Pine, 5 Red Cedar and 2 Black Cherry.

Most of the White Pine to be removed are near the King Street entrance. Keeping large Pines of this age would require a significant amount of maintenance to make them less hazardous. They are deformed from past storms and many have surface roots, indicating possible shallow root systems. Once the two most hazardous Pines have been removed, the remaining Pines will be more subject to blow down, branch failure, top failure and up rooting. Prevailing winds would normally blow these trees toward King Street.

No large tree is considered safe in winds exceeding 55 MPH when all conditions are right for failure, including soil moisture, shallow roots and large crowns. Tree crowns growing above surrounding tree canopies presents a greater risk of failure.

The 5 Red Cedars recommended for removal have grown into grave markers. The 2 Wild Black Cherry are declining as evident from crown dieback. Some trees [White Pines and 1 White Cedar] have multistem crowns which need support cables installed to help prevent large branch failure. The Pines should also have the end weight reduced on most horizontal branches to prevent future breakage. Raising lower branches on dense trees like Pine will also improve light conditions, benefiting the lawn beneath, reducing the growth of lichens and other biological growth on grave markers and provide a broader view of the burial ground.

All existing trees to remain should have dead wood and broken branches removed and receive an annual application of fertilizer to sustain a reasonable level of health.

Planting

Issues

The double row of White Pines in the center of the burial ground were planted some time during this century. Most of the rest of the vegetation inside the site appears to be volunteer growth. Daffodils have been planted outside the wall fronting King Street.

Recommendations

The quantity and placement of new vegetation should be limited to areas that do not interfere with the grave markers, paths, fences and walls.

Volunteer Growth

Issues

There is a large area of volunteer growth at the rear of the site.

Recommendations

Remove all volunteer growth.

Lawns

Issues

Lawns were in fair to poor condition with bare spots, some herbaceous weeds and moss. There is a large debris pile at the rear of the site, mostly organic material from leaf clean up with some sand and gravel. Another leaf pile is located outside the burial ground, at southwest corner of the White Street commercial building. It is much taller than the stone wall containing it.

The Cemetery Department has one full time maintenance staff person with supplemental help as necessary. In addition to Spring and Fall clean up, the grass is mown, and leaves and debris are removed.

Recommendations

Remove leaf and debris piles. Repair lawn areas. Lawns should receive an annual application of fertilizer to sustain a reasonable level of health.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

The burial ground has two points of access. The main entrance is on King Street, Routes 2A and 110. There is a paved public sidewalk and available paved parallel parking spaces outside the gate. It has a gated vehicular entrance and an open narrow pedestrian entrance. The site slopes gently inside the gate and has an earth path into the cemetery. Exposed tree roots on the path obstruct universal access. There is a secondary pedestrian entrance on White Street that is apparently rarely used. The site slopes steeply up immediately inside the gate.



View from King Street entrance

1999

Recommendations

The main entrance should remain on King Street as it is the historic, most visible and most accessible entrance. Universal access is dependent upon improvements to the vehicular gate and surface materials inside the cemetery.



View from King Street entrance

c 1900

Vehicular Access

Issues

Maintenance vehicles enter the site from King Street. Other vehicles are not allowed inside the burial ground because it is a relatively small site and there are no paved surfaces.

Recommendations

Maintain the current vehicular access.

Security

Issues

There is no security to the site because of the open pedestrian access and easily crossed perimeter walls.

Recommendations

Improved security measures are not deemed necessary at this time because of the limited vandalism that has occurred in recent years.

VANDALISM

Issues

Little vandalism has been reported or is evident. Blue paint was noted on two slate markers as well as an area of broken glass along the west edge.

Recommendations

Vandalism is not a significant problem and no changes are recommended other than removal of paint graffiti and broken glass.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

A single centrally located unpaved earth path leads from the main entrance into the middle of the site. It serves maintenance vehicles and pedestrians. There is no formal circulation system in the north half of the burial ground. A steep unpaved lawn path leads from the White Street entrance part way into the site before it dissipates into the landscape.

Recommendations

Maintain the circulation system in its current form.

Steps

Issues

While there are no steps associated with normal circulation routes, there are two granite steps related to the Sawyer family plot located immediately inside the entrance. The steps have settled and are uneven.

Recommendations

Reset the steps at the same time the plot edging is reset.

Pavement Materials

Issues

All walking surfaces are grass or earth.

Recommendations

Surface materials should remain grass until visitation reaches the point where it is no longer practical to maintain lawn. At that time a paved path system should be considered.

GRAVE MARKERS

Headstones and Footstones

Issues

The vast majority of grave markers are slate, with some marble and a few granite. Most are set in north-south lines facing east and west. The slate markers exhibit a wide range of stone carving styles and motifs. In general the slates are in good condition with some biological growth. The marble markers exhibit typical weathering patterns with erosion, softening of features and inscriptions, and a limited amount of grey / green biological growth. At least 25 slate and 15 marble markers need to be reset because they are leaning significantly or have been toppled. A much smaller number of slate and marble markers are broken and should be repaired.

Footstones were reputedly taken down some time ago and buried adjacent to the appropriate headstone to ease maintenance requirements.

A stone conservation and repair program was initiated in 1994 with the majority of the work completed to date near the King Street entrance. The firm of Fannin / Lehner has cleaned and reset the Elizabeth Cogswell footstone, 1749 Thomas Goldsmith headstone, 1849 Mary Robbins marker and 1886 Nehemiah B. Robbins marker.

Recommendations

Continue implementation of the stone conservation and repair program. Reset tilted and toppled stones in gravel, starting with the slate markers. No attempt should be made to reassemble the broken slate pieces in situ. Pieces of broken slates should be stored in a sheltered location, preferably inside. No attempt should be made to remove or reverse old repairs to slate markers as this will damage the stones. Depending on individual conditions, consideration should be given to repairing broken marble markers. Remove the minor biological growth from stones. Removing surface biological growths will improve the appearance of the stones and slow down weathering if done gently.

Table Tombs

Issues

A single slate table tomb is located immediately next to the Rogers granite obelisk. The 1779 Elizabeth Rogers marker has concrete support legs and is in good condition with a small amount of lichen.

Recommendations

Monitor lichen expansion.

Monuments

Issues

There are three granite obelisks in this burial ground. The largest is the centrally located Rogers gray granite monument. It appears stable with some earth settlement at the base exposing a portion of the rubble stone foundation. The Sawyer monument, immediately adjacent to the King Street entrance, has the same settlement issues as does the Blanchard monument which is just beyond the Sawyer obelisk. This 1900 gray granite monument has 6 to 8" of earth settlement at the base. At the southwest corner of the site, the smaller Eliot monument which is not an obelisk is leaning slightly.

Recommendations

Reset the Eliot monument to a vertical position and provide earth fill to cover the exposed foundations of the obelisks and raise the level of the ground to the proper level to prevent undermining and destabilization.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

The perimeter walls date from 1748 when the town voted to build them. There are two free standing stone wall types, one on the entrance or King Street side and another for the rest of the perimeter.

The King Street edge is in good condition. It has a 42" high large chinked grey granite wall with a granite cap. With a vertical face on the street side and buttressed on the burial ground side, it is 18-22" wide at the top and 32-36" wide at the base. There are two 12" square by 54" high granite posts at the entrance gate with a 9'-5" opening. The west post is slightly leaning, causing some binding of the swing gate. The top of the east post has been capped with a 2" thick layer of concrete to conceal a broken top. A gap between the east post and the wall allows free pedestrian access. The gap is 18" wide at the base and narrows to 14.5" because the end wall stones have shifted out of alignment.

The other perimeter walls are generally low piled local fieldstone. About 50' of wall is missing from the King Street end of the west edge. The adjacent 9 granite posts are assumed to be on adjacent property because the drill holes in the posts face the residential property. In the next 200' of wall there are a few locations where stones have become dislodged and should be reset. There is also one small opening in the wall where it has been reformed to create a pedestrian passageway. The remainder of this length of wall is in relatively good shape.

On the north edge of the burial ground, there is about a 40' length next to the adjacent residence where the wall is down. There is another short section with missing stones. The White Street edge is a low retaining condition, and it has a few top stones that have fallen. The south corner of this side is formed by 9 granite posts and a pedestrian gate. The east edge along the commercial building and residence is in relatively good shape with a few fallen stones.

Recommendations

Reset the west gate post to vertical position as well as the shifted stones at the pedestrian way. Replace the missing wall along the west edge and replace missing and fallen stones in all other locations.

Mound Tomb and Vault Structures

Issues

Assumed to be the receiving tomb, a mound tomb faces the White Street pedestrian entrance. The earth surface appears stable. The slate door with iron hinge straps is about 2/3 concealed with earth fill, and the identifying marker above the door is missing.

The Proctor mound may also be a mound tomb with no visible access. It is marked with a single vertical tablet at the top of the mound. The earth surface here also appears to be stable.

Recommendations

Remove the earth fill blocking the door at the White Street tomb and inspect the interior of the tomb to insure stability of the structure.

Edging of Family Plots

Issues

Family plots here have three types of edging as well as some that have the corner boundaries marked with vertical granite posts. Edging types include granite edging, granite posts with iron chains and cast iron posts with iron chains.

Two plots have granite edging. The Sawyer family plot, just inside the King Street entrance, is edged with 7" wide by 18" high granite. Slight settlement and leaning of the edging has occurred as well as settlement of the adjacent earth. The Johnson family plot, immediately inside White Street entrance, is edged with 8.5" wide by 18" high granite. It is in worse condition with separation and overturning as well as more significant settlement on the north side.

Three plots have granite posts with iron chains. The Breck family plot, just inside the King Street entrance, has six granite posts with chain hooks, but no chain. One of the posts has the top half broken off and missing, and another post has a broken top portion. The Rogers family plot, west of the Proctor mound, has six granite posts with chain hooks and one length of chain intact. Two of the posts are intact; one is missing; two are broken; and one has a broken top. A small plot, southwest of the Proctor mound, has four granite posts with 3 of the 8 lengths of chain in place. Two of the posts are leaning.

One plot has cast iron posts with iron chains. The Wright / Smith family plot at the northeast corner of the site had eight cast iron posts on stone bases. One of the posts is broken, one is missing, and most of the rest have been twisted to some degree on their stone base, presumably in an attempt to remove them. All of the chain is missing.

Vertical granite corner posts are located at two of the significant features of the burial ground, the Rogers obelisk and Proctor mound. Significant settlement is evident at one of the former posts with the unfinished base exposed.

Recommendations

Reset all granite edging as required. Add earth fill at the base and top of all edging as required including the Rogers obelisk corner post. Restore granite posts, cast iron posts and chain.

FENCES AND GATES









Cast Iron Fences and Gates

Issues

The wrought iron King Street vehicular gate was the gift of George Cheyne Shattuck, a descendant of the town's first minister, Rev. Benjamin Shattuck who died in 1763. It was donated about 1900. The gate serves as the vehicular entrance control. It is a picketed gate with 4'-9.5" to the top of the pickets and a decorative pattern at the bottom. With the hinges set on the street side of the granite support posts, the gate allows a clearance of 9'-5". Because the west gate post is leaning slightly, the gate does not close properly. The latch is fitted for a lock, but one has not been used. It has a center rest of granite for the closed position. The gate is generally in good condition with a little rust showing. The pineapple finial is broken off and missing from the west gate leaf.

The cast iron pedestrian gate on White Street is heavily rusted but in serviceable condition. It has a 4' clear opening with hinge and latch obstructions in the 4'-8" dimension between the 8" square by 4' high granite support posts. The top of the gate is 3'-9" above grade with about 8" clearance at the bottom once the earth and other debris is removed.

LEGEND

-  Existing Deciduous Tree
-  Existing Evergreen Tree
-  New Tree
-  Remove Existing Tree
-  Existing Stone Wall
-  Pedestrian Entrance
-  Vehicular Entrance
-  Existing Dirt Road

RESTORE RECEIVING TOMB

PROCTOR

WRIGHT-SMITH
PLOT - RESTORE
FENCE & GATES

REMOVE
VOLUNTEER
GROWTH

ROGERS PLOT -
RESTORE CHAIN
& BOLLARDS

ROGERS MONUMENT

RESTORE IRON GATE

RESOLVE ROOF
DRAINAGE & OTHER
DISCHARGES

WHITE STREET

KING STREET

SAWYER PLOT -
RESET EDGING
AND STEPS

RESET ELIOT
MONUMENT

RESET END
OF WALL

REPAIR & PAINT
IRON GATE

RESTORE
BACK PLOT

RESTORE WALL

OLD BURYING GROUNDS PRESERVATION PLAN LITTLETON, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE



NORTH

NOVEMBER 1999

1" = 100'

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

Recommendations

Replace the missing finial from the King Street gate and repaint the entire gate. Restore the White Street gate and remove obstructing earth and other debris.

SITE AMENITIES

Signs

Issues

Two bronze plaques are secured to vertical granite tablets adjacent to the main entrance. One identifies the burial ground and provides some information. The other identifies the 19 Revolutionary War veterans in the cemetery and 10 others at Westlawn Cemetery. Both plaques are in good condition. Revolutionary War graves are markers with round discs set horizontal and flush with the ground in front of each marker.

Recommendations

Signs are in good condition and no improvements are recommended.

Other

Issues

There are no trash receptacles, seating or other amenities in the burying ground.

Recommendations

Do not provide trash receptacles, seating or other amenities.

UTILITIES

Drainage

Issues

No drainage structures were found inside the burial ground. In general, the site drains on the surface and flows to low spots at sides of the central area. Two down spouts discharge into the burial ground from the commercial building on White Street. No apparent damage was evident. The same building is also discharging an odiferous dark liquid immediately adjacent to the burial ground at a point between the two rain leaders.

Recommendations

Work with the adjacent property owner to resolve drainage from roof leaders before it becomes a problem and the other discharge that has an unpleasant odor and is a distraction for visitors.

Water Supply

Issues

There is no source of water inside the burial ground. When water is needed, it is obtained from a neighbor.

Recommendations

Water is beneficial in times of drought. Explore a means of adding a hose bibb outside the site on the King and/or White Street edge.

Lighting

Issues

While there are no light fixtures inside the burial ground, there are street lights on utility poles some distance from the front of the burial ground, and ambient light from adjacent uses.

Recommendations

Do not add light fixtures inside the cemetery.

PRIORITIES

High Priority

- Stone conservation including repair program, resetting and repair of slate markers and pin replacement in marbles that are visibly cracked or spalled
- Vegetative removals and pruning
- Resetting west gate post
- Repair of pedestrian entrance wall opening
- Providing fill at exposed obelisk foundations
- Removing earth at White Street tomb
- Resolving roof leader and other discharges
- Lawn repairs

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base
- Family plot restoration and repair
- Resetting Eliot monument
- Repairing and replacing perimeter stone walls
- Repairing and repainting iron gates
- Fertilization of trees
- Consideration of adding water supply

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Additional planting

National Register Status: *Inventoried,
Recommended Eligible*
Current Management: *Historical Commission*
Status: *Inactive*
Condition: *Fair*



Central Street edge

OLD BURIAL GROUND

EAST BRIDGEWATER, c. 1724

Also known as the Old Graveyard, this one acre site is the second oldest burial ground in Old Bridgewater. Closed since the 1870s, the site is no longer an active burial ground. The burial ground has a parking area that is used by both the town and St. John's Church on the southeast side, and a parking and wooded area on northeast side. The latter property line is defined by granite posts and some boulders at northeast corner. Town Offices and the high school and elementary school on each side of the Town Offices are located across Central Street on the southwest side.

Located on Central Street, the Old Burial Ground is the Historic District's oldest property. It is adjacent to the Center or new cemetery on northwest side, a private nonprofit cemetery established in 1854. Small cherub motifs at the tops of the gate posts of the new cemetery are appropriate to the mid 19th century period of its development. The latter was significantly enlarged in 1877 on lands donated from the abutting estate of K. L. Shelton. The Shelton estate included an exuberant Victorian manor, a barn, carriage house and greenhouse, although no architectural or landscape features from the Shelton estate extended into the old graveyard. Central Street was widened in May 1882 and the first 40 graves were removed to other sites in the graveyard, or moved by the families into the "new" cemetery.

Raised about three feet above Central Street by a fieldstone and granite wall on the south and east sides, this gently sloping site contains a number of large trees to give it somewhat of a wooded appearance. The high point is near the southwest corner, close to the low point at the vehicular entrance. A low area is also located at the northeast corner.

Mention is first made of this graveyard of 100 rods in the deed of Deacon Samuel Allen, dated June 28, 1703. He and his wife Sarah are buried in unmarked graves. It was enlarged with a gift of 121 rods from Matthew Allen, Jr. on November 20, 1759. The northeast corner was designated as the pauper's corner [section E]. There were several burials before 1700 but no stones mark these graves. After 1724 Rev. John Angier cut initials and death dates on many flat field stones marking many of these early graves.

Many of the town's early settlers were buried here including Reverend John Angier the first minister, Reverend Samuel Angier the second minister, Isaac Otis the first doctor, Josiah Otis a doctor, Captain Jonathan Pass and Deacon Thomas Whitman, prominent families of the town, and war veterans including French and Indian War [3], Revolutionary War [72], War of 1812 [13], Civil War [1].

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

Tree cover is mostly mature and approximately 82% deciduous and 18% evergreen. There are too many trees inside the site for a burial ground of this vintage. It was reported that trees lined the Central Street edge until the 1938 hurricane destroyed them.

Recommendations

There is a general need to be more aggressive with tree removals to open up the site, complimenting the age of the burial ground.

Planting

Issues

Tree cover includes 44% Maple with 15 Maple [2 Red Maple], 6 Hickory, 5 Linden, 1 Oak, 1 Sycamore, 4 Pine and 2 Spruce. There are also 8 large stumps present. Some trees have been recently removed and at least 4 others should be removed very soon. There is a general need to prune the remaining trees to remove dead wood and lighten crowns to protect the historic resource of the burial ground.

Recommendations

Remove trees as required and prune those to remain. New or replacement trees should be placed outside the perimeter walls where possible. Large deciduous shade trees should be added along the edge of the parking lot to screen the visual intrusiveness of the cars. Replacement of the former tree lined image along Central Street will not be an easy task because right of way improvements have left a green verge along the curb that may be too narrow to adequately plant trees. The trees should not be placed inside the burial ground above the retaining wall because they will adversely impact the wall and most likely grave sites and grave markers as well.

Volunteer Growth

Issues

An area of volunteer growth is present in the northeast corner adjacent to the former hearse house location, a paupers area where few grave markers are present.

Recommendations

Remove all volunteer growth.

Lawns

Issues

Lawn areas are in fair condition. Some areas have moss present, particularly where trees have been removed. Some erosion was apparent in four areas on steep banks adjacent to the road into the burial ground as well as at the top of the wall near the vehicular entrance and behind the wall near the pedestrian entrance. While modest slope erosion is visible, there is no evidence of grave shafts, coffins or coffin hardware. Lawns are mowed several times each season.

Recommendations

Repair erosion and lawn areas. The steep banks adjacent to the road should be stabilized to prevent exposure of grave shafts as the ground surface gradually erodes with time.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

The pedestrian entrance is near the southwest corner opposite a crosswalk to the Town Office building with a pedestrian crossing signal on Central Street. There is a concrete sidewalk along street edge and access into the site requires negotiating a short steep grass slope. A 6' wide opening in the wall is defined by two 6"x12" by 4' high granite posts. An iron hinge pin remains on the north post.

There is also access into the cemetery from a parking lot on the east side, through or adjacent to the former hearse house site. It has an 11' wide opening and is a potential route for a universal access compliant entrance.



O. H. Bailey's 1877 view of East Bridgewater

Recommendations

The Central Street entrance should be regraded to allow universal access. Work should be performed in conjunction with an archaeologist to insure protection of any potential historic resources at the entrance.

Vehicular Access

Issues

Vehicular access is available from Central Street at the northwest corner of the site that also connects to the new cemetery road system at the northeast corner of the site. The access point is defined by a 13' wide opening set back from the street in a curving stone wall with 2 granite gate posts that are 6' high by 1'-6" square. Iron hinge pins remain on the cemetery side of the posts. There is a 3' wide space outside each gate post with a short 2' high, 7" diameter octagonal granite post centered in each opening.

Recommendations

This system appears sufficient for the visitation requirements and no changes are recommended.

Security

Issues

The site is open with easy access on all sides. Perimeter walls are relatively low and easily scaled.

Recommendations

Security is apparently not an issue on this property and improved measures should not be pursued at this time.

VANDALISM

Issues

Little vandalism has been reported. A minor amount of trash and debris was evident at the northeast corner where volunteer growth was present.

Recommendations

Vandalism is not a significant problem and no changes are recommended other than removal of trash and debris.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

Other than the road along one edge, there does not appear to be a defined path system, although circulation is unimpeded. There are no indications of historic paths or walkways.

Recommendations

Maintain the existing system. Do not add a path system.

Roads

Issues

The access road may have been built as a way to the new graveyard. It has apparently been realigned and simplified based upon the alignment shown on the Latham map.

Recommendations

The access road should remain as it is.

Pavement Materials

Issues

The bituminous concrete paved drive is in fair condition. All walking surfaces are grass.

Recommendations

Resurface the drive with bituminous concrete within five years. Although a gravel surface would be a more historically appropriate material, gradients are too steep to maintain it as such without a significant and continual effort. Surface materials for walks should remain grass until visitation reaches the point where it is no longer practical to maintain lawn. At that time a paved path system should be considered.

GRAVE MARKERS

Headstones and Footstones

Issues

This burial ground contains approximately 600 grave markers. The 1882 Latham map noted 581, not including footstones. At that time all footstones were moved to locations immediately behind the respective headstones. About 2/3 of the markers are slate. The remaining 1/3 are mostly marble with one granite marker. Several early graves are marked with primitive inscribed fieldstone slabs. Many of the slate markers are in remarkably good condition, with only a few exhibiting signs of delamination or spalling. They also represent some of the finest "carver" stones of this period. Grave markers are set closely together in fairly regular rows, mostly facing southwest. Several rectangular depressions indicate where grave markers have fallen or been removed. The Pauper's Corner contains two markers, one for Mary Hewens and a small unmarked stone. Surface depressions beneath the leaf cover suggest deflated terrain associated with unmarked burials. A modest swale cuts through the area, around a small mound or berm.

A large number of stones are tilted or toppled and 20 or more are broken. Stone rubbings have been prohibited because of the fragility of some of the markers. The marble markers have eroded somewhat with grey and yellow lichen colonies flourishing on most stones. Grey and pale green biological growths on slate markers are less widely distributed. There is no evidence of mower damage. An automobile reportedly went over the wall at the southwest corner and damaged some of the grave markers 2 to 3 years ago. Several older broken slate markers have been reassembled using iron straps, which are now rusted.

Recommendations

Leaning and toppled stones should be reset, beginning with the slate markers. No attempt should be made to remove or reverse old repairs to slate markers. Pieces of broken "carver stones" should be stored in a sheltered location, preferably inside. No attempt should be made to reassemble the broken pieces in situ.

Unstable or sugaring marble surfaces should not be cleaned or otherwise treated. Biological growths on top of stable slate and marble surfaces should be carefully removed with dry brushing during dormant seasons. Stubborn growths may be carefully removed with wooden or plastic scrapers. Seek the advice of a stone conservator regarding the pros and cons of applying a biocide on these stones.

The northeastern portion of the burial ground where the Pauper's Corner is located should be examined by an archaeologist. Small piles of dirt and boulders were deposited there apparently when the abutting parking lot was constructed.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

Stone retaining walls form two sides of the burial ground, the front or south side [rebuilt in 1882 for the widening of Central Street] and the east side [1822]. The south wall is 3.5 to 4' high with a rough hewn granite cap set in mortar. The wall appears to be in good condition and was apparently recently repointed.

The east wall, bordering the former Town Hall plot and now the St. John's Church parking lot, is of rougher construction with generally smaller, sometimes rounded stones and a rough hewn granite cap. The wall ends at a point near where the hearse house once stood and the remainder of the eastern boundary is unmarked. Approximately 2' high, the mortared fieldstone appears solid with some slight leaning and weaving in a horizontal line. It has had a heavy mortar application with wide mortar joints.

Recommendations

Some localized repointing maintenance is needed at the retaining walls. When repointing, minimize the width of mortar joints to emphasize the character of the stone. Maintain the walls by inspecting them annually and resetting any displaced stones.

The existing stone wall should be extended to the northeastern property boundary after the former hearse house location is determined. It should match the extant wall in material and construction method. In order to prevent impacts to unmarked burials in the Pauper's Section and archaeological evidence of the hearse house the new wall should be constructed above ground only and no subsurface excavations should take place. An archaeologist should be on site during construction.

Edging of Family Plots

Issues

One family plot near the southern corner and pedestrian entrance is defined by 4 vertical granite posts. The chain hooks are intact but the chain is missing.

Recommendations

Replace the chain to match the historic chain based upon historic images, if available.

BUILDINGS

Issues

A hearse house was located near the northeast corner, but no remnants are visible. It appears on O. H. Bailey's 1877 view of East Bridgewater and may have been at the opening defined by granite posts at the end of the south perimeter wall or immediately east of that opening. One of the granite posts is broken off at grade and the other is intact with an iron bolt protruding from it.

Recommendations

Additional research on the hearse house may provide important information on the structure. Town documents, such as Annual Reports and Selectmen's Records, may reveal the construction date, the cost of the building, the name of the contractor, or describe the hearse and mortuary equipment, and enumerate the cost of operating the town owned funeral equipment.

FENCES AND GATES

Issues

While there are no fences or gates remaining, there is a line of 12 granite posts along the northern margin of the graveyard, marking the boundary. The fence line was probably erected toward the end of the 19th century, based on the style of the rough hewn granite posts. They were probably linked by wire rope or chain which has disintegrated or been removed. Many of the granite posts are askew. Iron hinge pins indicate that gates once existed at both the vehicular and pedestrian entrances.

Recommendations

The original granite post and chain or wire rope fence should be restored to demarcate and protect the northern boundary of the cemetery in conformity with the original fence. A qualified archaeologist should be on site during restoration and repair of the fence. Restoration and stabilization procedures should be conducted from outside the cemetery. The former gates at the pedestrian and vehicular entrances should be replicated based upon historic images, if available.

SITE AMENITIES

Signs

Issues

There is one small metal identification sign near the northwest corner on the hill above the vehicular entrance. It is difficult to see because of the size and color. There are no informational or interpretive signs.

Recommendations

Provide a new identification sign at the Central Street pedestrian entrance. It would be beneficial to add informational and interpretive signs.

Seating and Trash Receptacles

Issues

There are none of these amenities on the site.

Recommendations

Do not provide this type of amenity.

Flagpoles

Issues

There is one metal flagpole, approximately 35' feet high, opposite the pedestrian entrance. It is rusting and apparently not used. Small flags are placed at war veterans grave markers by the local American Legion post.

Recommendations

The flagpole should be removed because it appears inappropriate in this burial ground, particularly with another one sited across the street at the Town Office building. The practice of flagging veterans graves for Memorial Day should continue. Consideration should be given to employing the American flags that were in use during the war years that each veteran fought in.

UTILITIES

Drainage

Issues

No drainage structures were found inside the burial ground. In general, the site drains on the surface and flows toward the northeast corner with some of the west side of the site being intercepted by the drive and flowing to Central Street. Sedimentation was evident at the pedestrian entrance.

Recommendations

No changes are recommended. Sedimentation issues should be resolved with lawn repair.

Water Supply

Issues

No source of water was found inside the burial ground.

Recommendations

Water is beneficial in times of drought and would help to re-establish lawns. Work with the adjacent church to provide hose bibbs outside burial ground walls.

Lighting











Issues

There are no light fixtures inside the burial ground but there are street lights on utility poles adjacent to the site that provide some illumination.

Recommendations

No additional lighting is recommended.

LEGEND

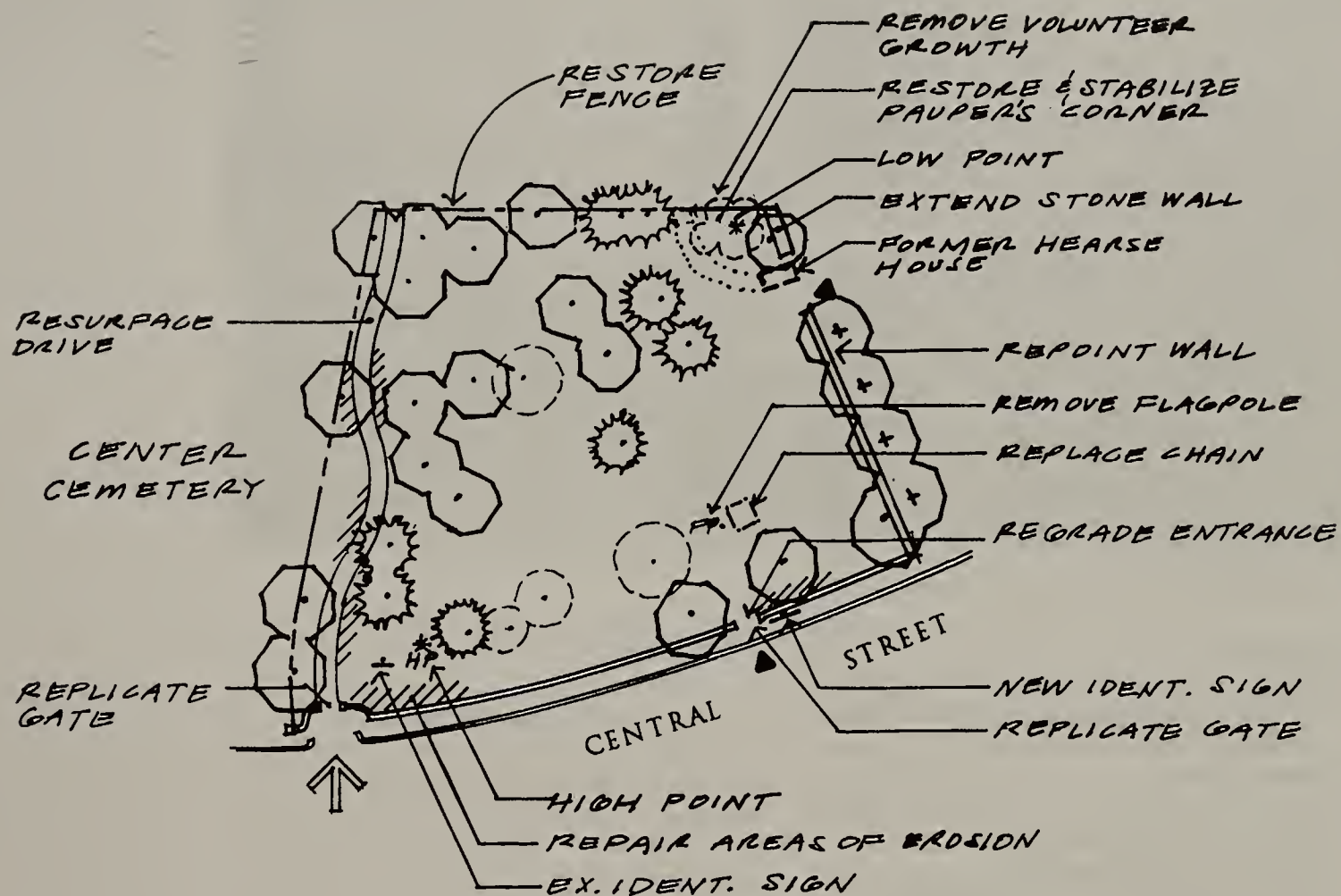
-  Existing Deciduous Tree
-  Existing Evergreen Tree
-  New Tree
-  Remove Existing Tree
-  Remove Volunteer Growth
-  Existing Stone Wall
-  Repair Erosion
-  Vehicular/
Pedestrian Entrance
-  Property Line
-  *FP.* Existing Flagpole

NORTH

NOVEMBER 1999

1" = 100'

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST



OLD BURIAL GROUND PRESERVATION PLAN EAST BRIDGEWATER, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

PRIORITIES

High Priority

- Stone conservation including resetting and repair of slate markers and pin replacement in marbles that are visibly cracked or spalled
- Vegetative pruning and removals including volunteer growth
- Restoration and stabilization of the Pauper's Corner
- Erosion and lawn repairs

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base
- Perimeter wall maintenance
- Hearse house research and perimeter wall extension
- Identification sign placement
- Fertilization of trees
- Consideration of adding water supply.

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Resurface drive
- Regrade Central Street pedestrian entrance
- Restore north boundary fence
- Family plot chain restoration
- Replicate gates at Central Street entrances
- Remove flagpole
- Informational and interpretive sign placement
- Additional planting.

National Register Status: *Inventoried,
Recommended Eligible*

Current Management: *Public Works Dept.*

Status: *Inactive*

Condition: *Fair*



View to Front Beach

OLD PARISH BURYING GROUND ROCKPORT, c. 1732

This inactive 1.06 acre site with an impressive ocean view is the oldest burial ground in town. Facing Front Beach and a small park overlooking the beach, the site slopes toward the ocean with an average slope of about 10% and a 30' vertical grade change. The property is edged with motels and appurtenant parking lots immediately north and south of the property. The top of the slope at Mill Lane has adjacent small scale residential development and a small cemetery [Old Parish Annex or The Annex of Old Parish Cemetery]. Mill Pond Park is also nearby. Located near the heart of the heavily visited downtown area, it has been reported that quite a number of visitors stroll through the burying ground during the summer and that it is also used as a shortcut by local residents.

Richard Tarr, Rockport's first settler, arrived on Front Beach in 1690 and built his home nearby. He used this field to graze cattle and near the end of his life gave the site to the town for a burial site. With 650 gravesites and gravestones dating from 1732, Old Parish Burying Ground contains the remains of some of Rockport's famous citizens including Hannah Jumper who led the movement to make Rockport a "dry" town in 1856. Richard Tarr and John Poole, Rockport's first and second settlers also rest here as well as most of the other early settlers, veterans of the French and Indian War, Revolutionary War and War of 1812.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The site has an open appearance which is appropriate for a burial ground of this vintage. Trees are located along the edges of the site, both inside and outside the property.

Recommendations

This general appearance should be maintained. Supplemental planting along the north and south edges would be very appropriate to screen out the visual distractions of adjacent uses.

Planting

Issues

Very little planting is present inside the burial ground. There is a large Oak at the northwest corner, a nearby Azalea, a small locust on the north side near the oak, a Crabapple near the hearse house and three Hawthornes along the southern edge. English Ivy and Running Euonymous are growing on some of the walls. Roses and bulbs have been planted along part of the Mill Lane wall on the residential side of the burial ground.

Recommendations

The Crabapple and Hawthornes along the south edge of the site should be removed and replaced with large deciduous shade trees which will create a greater visual separation between the burial ground and the adjacent motel which are incongruous abutters. Large deciduous shade trees should also be provided along the north edge for the same reason. As a precautionary measure, an archaeologist should monitor all the planting procedures within the burying ground.

Volunteer Growth

Issues

Aside from an occasional sapling at a grave marker, there is little volunteer growth inside the site. A number of trees are located just outside the wall along the north edge. These Oaks, Locusts and Black Cherrys are generally not creating problems at this time, but safety pruning would benefit the burying ground. A large Oak outside the wall at the corner near the Annex entrance has grown into the wall and pushed some stones over. It has also grown into the Annex entrance gate, breaking the gate top rail from the hinge support post.

Recommendations

All volunteer growth inside the site should be removed. Work with adjacent property owners to have adjacent trees safety pruned. Remove the large Oak near the Annex entrance.

Lawns

Issues

Lawns are in poor condition with many small bare spots, weed growth and moss, primarily because of the nutrient poor, rapid draining, droughty sandy soil. There are areas of erosion on the main path, along the north edge and at the top of the mound tomb. Lawns are not watered and appear to be infrequently mowed. Lawn maintenance by the town DPW includes grass cutting, debris removal and insect control for grubs.

Recommendations

Soil improvements are necessary to add nutrients and increase water retention capacity. Once this is accomplished lawn areas should be reseeded. Consideration should be given to providing a source of water at Beach Street and Mill Lane to help establish lawns and maintain them during times of drought.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Pedestrian access to the site is available from both Beach Street and Mill Lane. The Beach Street access is adjacent to the hearse house with one granite step up into the burial ground through a 3'-4" wide opening. Mill Lane pedestrian access is through a wood picket gate with 6'-8" wide clearance and a gate latch that is wired closed. The gate is framed by two rough hewn 3'-6" high granite gate posts that are roughly 8" x 12" at the top. Most people walk around the gate post through a narrow opening in the wall.

Because of the gradient of the burial ground, universal access throughout the site is not feasible. Handicapped visitors can enter the site from Mill Lane and the vehicular access at Beach Street, but not traverse the site. The hearse house is not universally accessible because of the two granite steps up into the building.

Recommendations

No changes are recommended. The painted wood picket gate should be maintained.

Vehicular Access

Issues

Primary vehicular access is from Beach Street which is for maintenance vehicles only. Two 12" x 12" x 4.5' high rough hewn granite gate posts frame the 10' wide removable wood picket fence that is bolted in place. The post nearest the hearse house is leaning and 3 of the 4 iron hinge pins of a former gate remain in place.

There are no parking facilities inside the site. Metered parking is available on the opposite side of Beach Street. Mill Lane is too narrow to accommodate parking.

Recommendations

No changes are recommended. The leaning gate post should be reset and the painted removable wood picket fence should be maintained.

Security

Issues

Other than the prevention of unauthorized vehicular access, no other security measures are in place.

Recommendations

Security does not appear to be an issue in this burial ground and no changes are recommended.



Beach Street edge

VANDALISM

Issues

Some old paint vandalism is evident on two slate markers. It was reported that there is some trash accumulation during the summer from visitors.

Recommendations

Vandalism is not a significant problem and no changes are recommended other than removing the old paint graffiti.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

Existing paths are grass and there are no roads inside the burial ground. The path system is composed of a central east-west path that connects the two gates.

Recommendations

Maintain the existing path system. Do not add a road system.

Steps

Issues

There are three granite steps on the site, all adjacent to the hearse house. One provides access up to the site from Beach Street at the lower pedestrian entrance and two adjacent steps provide access up into the hearse house.

Recommendations

No changes are recommended.

Pavement Materials

Issues

All surface materials are grass.

Recommendations

Surface materials should remain grass until visitation reaches the point where it is not longer practical to maintain lawn. At that time a paved path system should be considered.

GRAVE MARKERS

Headstones and Footstones

Issues

Although in the center of the Cape Ann quarries, one of the most prolific producers of granite in America from 1800 to 1920, the 400 or so marker collection are about half slate, half marble, and only about 5-10% granite. Part of the explanation is that the burial ground opened about 75 years before the quarries opened on Cape Ann and granite had not come into fashion as grave marker material during the early years of the burial ground operation. There is no evidence of slate blistering, but several of the slate markers are splitting. The marble markers are highly weathered, exhibiting sugared surfaces and many illegible inscriptions. Yellow-orange botanical growth or lichen is present on a large portion of the markers. The three most important historic markers include the stones of Hannah Jumper, Richard Tarr and John Poole. The Hannah Jumper white marble stone is eroded but still legible. A new small granite marker, dedicated in 1994 by the Sandy Bay Historical Society, was placed horizontally on the ground in front of the marble marker. A large marble memorial stone with a scroll form was erected by the town in 1854 for Richard Tarr, first settler d. 1731-2. The original slate marker of John Poole, second settler d. 1727 5/19, is set in granite. Poole was reinterred from Little Meadow at the top of King Street in 1878. There is also the granite obelisk of Rev. David Jewett and a memorial bronze plaque set in a granite boulder by the Cape Ann Chapter of the DAR in recognition of the unknown graves of Revolutionary War soldiers resting in the burial ground.

A brief survey of the markers found a few delaminating slate, 3 broken slate, 5 broken marble, 4 marble to be reset on their bases, 28 leaning slate, 54 leaning marble and 3 leaning marble on granite bases. About 8 of the markers suffer from unfortunate prior repairs, primarily with iron or bronze straps. One of the delaminating slate markers has bronze pins through the face. There is no evidence of mower damage. It was reported that some of the markers were turned 180 degrees some time ago to protect them from damage caused by blowing sand.

Recommendations

Repair and reset all broken, leaning and toppled markers. Clean the stable, unsugared marble markers and consider protective measures to prevent damage from salt and wind driven sand. Consideration should be given to removing prior repairs made with iron or bronze straps. Seek a metal conservator's advice on cleaning and possibly applying a protective coat to the DAR bronze memorial plaque.

Table Tombs

Issues

The John Gott marble table tomb dated 1812 is becoming illegible with erosion of the top surface.

Recommendations

Seek a stone conservator's advice regarding applying a protective coat on the marble table tomb.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

Beach Street wall: Constructed of horizontally coursed granite with mortar joints, this 3.5-4' high wall appears stable but needs repointing. A utility pole on Beach Street is anchored to an eyebolt in the base of the wall. This could place stress on the wall during high winds.

Mill Lane and South edge walls: This dry laid free standing rubble stone wall is about 3 feet high and crudely constructed with a few loose and toppled stones. There is also a short section of railroad tie retaining wall along the south edge.

North edge wall: This low dry laid rubble stone retaining wall is in fair condition with a partial collapse in a section about 20' long. There is also a cast in place concrete curb on top of the wall in a nearby 20' long section, presumably where that section of wall failed.

Recommendations

Repoint the Beach Street wall and work with the utility company to find another means to anchor the utility pole. Repair the north, south and Mill Lane walls.

Mound Tomb and Vault Structures

Issues

The Whipple mound tomb of 1840 has a granite facade with a small marble plaque set into granite. The marble inscription is becoming illegible with deterioration. There is some erosion evident at the top of the mound and a drainage problem at the black painted iron door. The bottom of the door is set lower than the top of the adjacent retaining wall along the street. Some rust is evident at the door which has a contemporary lock.

Recommendations

Repoint the granite facade and protective coat the marble plaque. Provide a weep in the retaining wall below the door to prevent trapped water at the base of the door. Repaint the door with an appropriate rust passivating paint and replace the lock with a more historically appropriate device.

Edging of Family Plots

Issues

Three of the family plots are edged with granite. One corner of the Rev. David Jewett plot edging is broken because of rust jacking of the former iron fence enclosure. Half of the edging at the Haskell plot needs to be reset because of settlement and/or frost heaving. Edging at the Giles plot is in good condition.

Recommendations

Repair the broken edging at the Jewett plot and reset the edging at the Haskell plot.

BUILDINGS

Issues

There is a small wood shingle shed on a granite foundation at the entrance to the burial ground that is used for storage. Painted white with a green asphalt shingle roof, the structure may be the original 1836-1870 hearse house or it could have been moved to this site from Beech Grove Cemetery. It houses the original one horse hearse purchased in 1836 that was used 26 years. Recently returned to this site, the hearse was removed from the hearse house in 1961 because room was needed for the storage of lawnmowers and other maintenance equipment. The historic hearse can be seen through the single window facing the street.

The structure shows some signs of 18th century construction with mortise and tenon joinery and pegged joints, large uneven vertical saw marks apparently from a pit saw, and wrought nails. Further close analysis of the construction could probably indicate a date of construction within a decade or two.

While the structure is generally in good condition, the roofing is near the end of its useful life and the siding needs repair and paint. The foundation is open on the uphill side allowing access for small animals.

Recommendations

The building is certainly historic enough to warrant study and careful maintenance. It should be restored and repainted.

FENCES AND GATES

Cast Iron Fences and Gates

Issues

There is a broken cast iron gate with an arch of decorative iron work over the gate at the entrance to the cemetery Annex at the high point of the site. It has been speculated that the gate may have been relocated from the larger adjacent Old Parish Burying Ground.

Recommendations

The gate should remain in its current location unless it can be confirmed that it was relocated from the Old Parish Burying Ground. There is no other decorative iron work in the burying ground.

Interior Fences and Gates at Family Plots

Issues

There is evidence that the Rev. David Jewett plot once had an iron fence enclosure. It is no longer in place.

Recommendations

The fencing should not be replaced.

Chain Link Fences

Issues

There is a short section of 4' high green vinyl coated chain link fence immediately adjacent to the hearse house that is assumed to belong to the adjacent motel.

Recommendations

The chain link fence should be removed and replaced with a historically more appropriate type of fencing.

SITE AMENITIES

Signs

Issues

There is only one sign on the site, a "No Dogs" sign attached to the hearse house facing Beach Street. There are two signs in the Beach Street right of way adjacent to the burial ground, a Massachusetts Bay Colony Tercentenary Committee sign identifying the site and providing some historic information, and a commercial sign identifying "Motel Peg Leg" sited directly in front of hearse house. The former sign was recently repainted and is in excellent condition.

Recommendations

A site identification sign should be provided, preferably secured to the hearse house. Informational and interpretive signs should also be provided

Seating and Trash Receptacles

Issues

None.

Recommendations

Do not provide seating and trash receptacles inside the burying ground. Both are available across the street at Front Beach.

Flagpoles

Issues

There is one flagpole immediately adjacent to the hearse house that is assumed to belong to the neighboring motel.

Recommendations

Work with the motel to relocate the flagpole so that it does not compete with the view of the burying ground.

UTILITIES

Drainage

Issues

In general, the site drains on the surface and flows toward the ocean. No drainage structures were found inside the burial ground. There are some catch basins at the top of the site along Mill Lane adjacent to the burial ground. Erosion is evident on the path. The area in front of the mound tomb entraps water.

Recommendations

Resolve the erosion conditions related to the pathway and verify that surface drainage from Mill Lane does not enter the site and traverse the slope aggravating erosion conditions. Eliminate the trapped water at the mound tomb as recommended above.

Water Supply

Issues

No source of water was found inside the burial ground.

Recommendations

Water is beneficial in times of drought. Explore a means of adding hose bibbs in the Beach Street and Mill Lane right of way.

Lighting









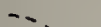
Issues

There are no light fixtures on the site. Street lights exist along the two perimeter streets and there is lighting in the adjacent motel parking areas.

Recommendations

Do not add light fixtures inside the burial ground.

LEGEND

-  Existing Deciduous Tree
-  New Tree
-  Ex. Stone Wall
-  Vehicular/
Pedestrian Entry
-  FP • Flagpole
-  UP • Utility Pole
-  Repair Erosion
-  Sign
-  Existing Grade Contour



NORTH

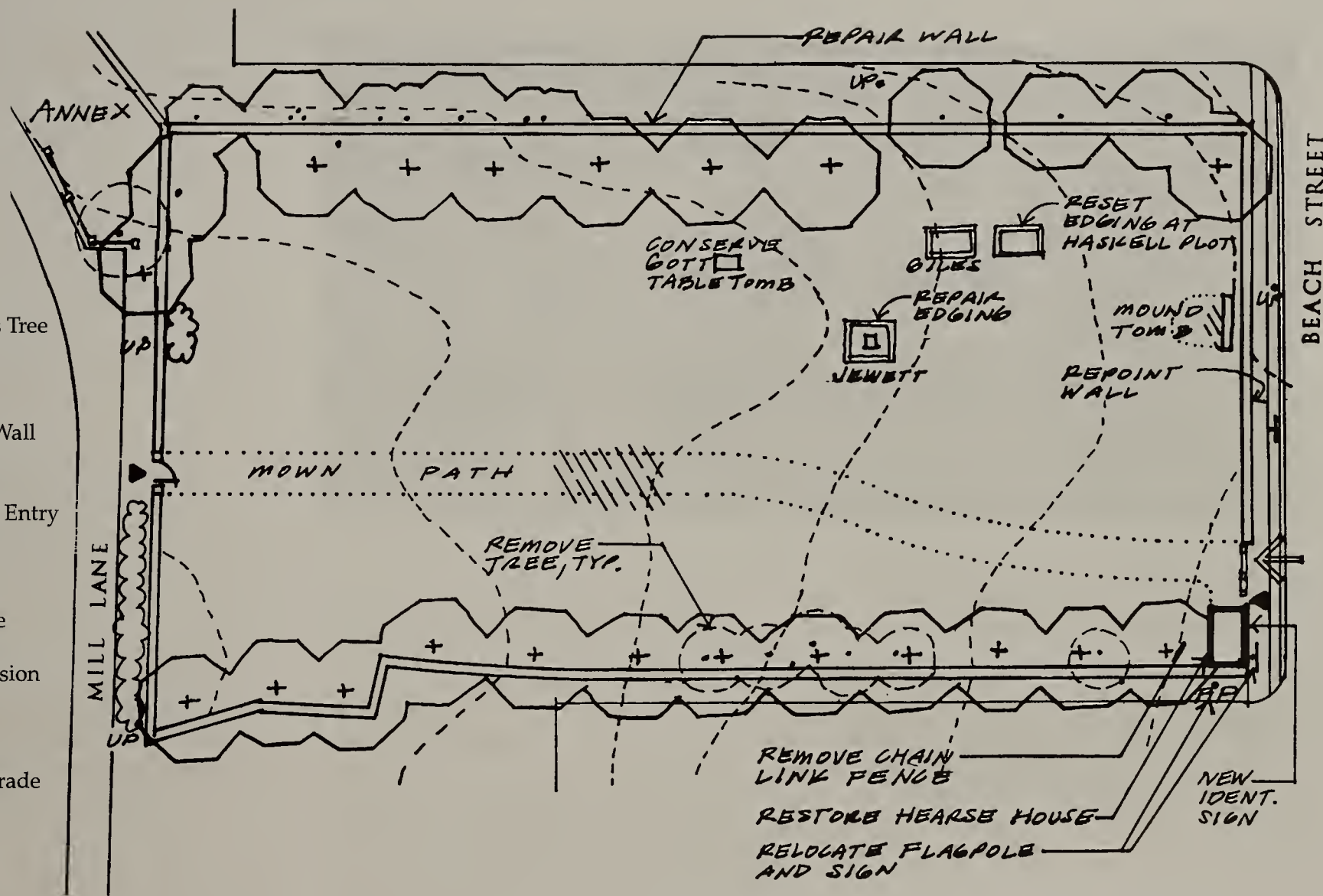
NOVEMBER 1999 1" = 40'

BY:
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OLD PARISH BURYING GROUND PRESERVATION PLAN ROCKPORT, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE



PRIORITIES

High Priority

- Stone conservation including resetting and repair of slate markers and pin replacement in marbles that are visibly cracked or spalled
- Vegetative removals and pruning
- Repair of structural items like the north perimeter wall
- Erosion and lawn repairs
- Consideration of adding water supply
- Identification sign placement

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base
- Repointing of the Beach Street wall and mound tomb
- Repair of the Mill Lane and south perimeter wall
- Hearse house and family plot restoration
- Maintenance of wood fencing and gates
- Repair and fertilization of trees

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Informational and interpretive signs
- Additional planting

National Register Status: Not Inventoried
Current Management: Cemetery Commission
Status: Active
Condition: Good



Interior of cemetery

CORBIN CEMETERY

DUDLEY, c. 1735

Corbin Cemetery was the first cemetery in Dudley. It was named for James Corbin who was born at Muddy River near Brookline in 1662. He died in Dudley in 1736. He was one of the first settlers of Woodstock CT in 1686 and Dudley in 1724, as well as the first selectman.

The land was donated by James Corbin in 1735 for a public burying ground. The same year he gave \$0.10 as a bequest to the town "for upkeep of Corbin Cemetery for perpetual care." In 1927 one of his descendants, Louise Corbin of Southbridge gave a gift of \$10.00 for upkeep of the cemetery.

All of the lots have been sold in this 5.74 acre cemetery, but burials still occur in some family plots.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

Stands of evergreen trees separate much of the cemetery from Corbin Road, a bituminous paved two lane drive. This includes a stand of primarily Spruce at the south end and stand of mostly Pine in the center between the perimeter cemetery wall and the road.

The interior of the cemetery is relatively open with well spaced large old Oaks in the central portion. Younger Maples, mostly Red, contribute to the character of the north and south ends of the cemetery. There are also Flowering Dogwood and occasional clumps of volunteer Black Cherry.

Recommendations

Maintain the evergreen tree separation from the road and extend that character at the north end along the road as possible.

Maintain the general open character of the interior of the cemetery.

Planting

Issues

At total of 24 trees inside the cemetery were examined. They were all deciduous and included 1 Sugar Maple, 14 Red Maple, 3 White Oak, 5 Red Oak and 1 Flowering Dogwood. The largest is a 53" DBH Red Oak. Most are in fair condition although 3 removals are recommended including 2 Red Maples [23" and 20" DBH] with cavities in the main stem, and a 28" DBH White Oak that is structurally unsound.

In addition, 26 assorted conifers were examined outside the cemetery, adjacent to Corbin Road. They are in fair condition and would benefit from crown cleaning.

Shrub plantings at some of the grave markers have become overgrown to such a point that they obscure adjacent grave markers.

Recommendations

Remove the 3 hazardous trees. Crown thin the largest Red Oak and crown clean most of the rest of the trees. Provide support systems for 10 trees. Fertilize 7 and examine the root collars of 8 trees. Remove shrubs at markers that are not being cared for.

Volunteer Growth

Issues

In addition to the volunteer Black Cherries in the interior of the cemetery, a young Ailanthus was observed in the south side and brier is beginning to establish itself in the northeast corner. There are also volunteer trees at the perimeter wall, mostly on the east and west sides.

Recommendations

Remove all volunteer growth. Work with adjacent property owners to remove trees impacting perimeter walls.

Lawns

Issues

Most lawn areas are generally good condition with some moss and herbaceous weeds on the slope of the west side. Some bare spots and erosion was observed on the steep banks along Corbin Road.

Recommendations

Lawn areas should be top dressed with the applicable soil amendments added and then reseeded.



180 - Dudley

Interior of cemetery

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

All access is obtained through 3 vehicular entrances/exits related to Corbin Road. There are no designated parking spaces or walks. Passageways have about a 13'-3" clear opening. All surface materials other than paved drives are grass. Most slopes are universally accessible.

Recommendations

No changes are recommended for pedestrian access. Universal access should continue to rely on vehicular access routes.

Security

Issues

The cemetery is always open with no security measures in place.

Recommendations

Because vandalism does not appear to be an issue, additional security measures are not recommended at this time.

VANDALISM

Issues

It was reported that there was no vandalism to speak of, and other than observing one beer can inside the cemetery and another just outside, there was no evidence of vandalism.

Recommendations

No changes are recommended.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

The one way vehicular circulation system has a single central entrance from Corbin Road that divides in two directions to the exits. The single lane drive varies in width from 10 to 11'. Grass maintenance access drives extend from the paved drive. There is no defined walk system.

Recommendations

Maintain the existing circulation system. Once the cemetery becomes inactive, consideration should be given to removing the paved south exit drive in favor of lawn to reduce vehicular damage to adjacent perimeter walls.

Steps

Issues

Set into the stone wall extension of the receiving tomb is a set of steps with 4 stone risers. The vertical face of the risers is partially parged with mortar.

Recommendations

Rebuild steps.

Road Edging

Issues

Except for 2 sections of precast concrete curbing at a tight curve in the drive at the southeast corner, drives are not edged. The drive is located tight against the perimeter wall at the south and southeast edges.

Recommendations

If it is possible with the layout of the existing burial plots, the curve at the southeast corner should be eased to such an extent that the curbing can be removed. If this is not feasible, the existing curbing should be removed and replaced with something more substantial to protect the corner burial plot. No other drive edging is recommended.

Pavement Materials

Issues

While it was noted that "all walks and main drive kept cut with lawn mower" in the 1920s, the main drive is paved with bituminous concrete today. The paved surfaces are in fair to good condition.

Recommendations

As long as the cemetery continues to have burials, it is advantageous to maintain the current pavement materials.

GRAVE MARKERS

Headstones and Footstones

Issues

There are a number of slate markers on the older central section intermixed with some marble and granite markers as well as some family plots. The perimeter contains mostly granite markers with some marble, a brownstone and a zinc [Barnes] marker.

Overall the grave markers were in fair to good condition. A brief survey found 12 leaning slate markers, 1 toppled and 7 broken. There were also 5 leaning marble markers, 2 toppled and 1 broken. Two multipart marble markers exhibited signs of internal dowel corrosion and another had already broken apart. One granite marker was leaning.

Recommendations

Reset, repair and clean grave markers based on the prioritized recommendations noted herein.

Monuments

Issues

The cemetery contains a few larger monuments and obelisks in varying conditions. The marble Corbin monument at the high point of the cemetery has some acid rain deterioration and has been twisted such that it is slightly off center. The marble Love monument is also twisted and has an exposed foundation as does the marble Durkee monument. The Congdon obelisk is leaning. Biota ranged in color from light to dark gray to yellow ochre.

Recommendations

Reset leaning and twisted monuments. Provide earth fill at the exposed foundations to help keep them stable. Remove biological growths. Provide protective coating at the Corbin monument to deter acid rain damage.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

West Wall: This field stone wall is partially free standing and partially retaining. Stones have been chinked in place and there is mortar in the interior of the wall. Some mortar has been placed at or near the surface in some areas. Color variation is apparent between old and new mortars with lighter, less gray older mortar. The wall is capped with a 5" thick, 28" wide cast in place concrete cap with cold joints. That is, no expansion material was provided between joints. The wall has numerous localized areas of damage particularly near joints in the cap. The damage suggests that the width of the cap joints is too narrow to accommodate expansion. No weep holes were seen in the retaining portions of the wall.

The south portion of the wall is free standing and generally in good condition. The cap is broken in a 10' long section that has slightly shifted. At the top of the wall south of the center entrance are 2 iron rings formerly used for tethering horses.

The middle portion of the wall retains the cemetery above the road. It is displaying movement in several areas including a 20' long section at the south end, a 40' section in the center that is also leaning toward the road, and toward the north end a lateral shift of about 1" has occurred in the cap.

The north portion of the wall retains the road above the cemetery. It varies in height from about 4'-6' on the cemetery side. It has 3 areas of spalling in the concrete cap near joints.

In 1926, memorial gates were erected by Mary Knight Conant, 93, in memory of her grandfather Dr. John Eliot Eaton. The bronze plaques indicate that these were the central and north gates. Piers are about 8'-2" high. At the central entrance, the south pier is leaning and the north pier has been rebuilt. Piers at the north and south exits appear stable.

North, East and South Walls: The other three edges of the cemetery are defined by a dry laid free standing wall of piled up field stone. The north wall varies in height from 2-4'. It is relatively intact but has 3 areas of localized collapse, and at least 2 of them are related to trees outside the wall. The east wall is about 30" high and has a large area of collapse near the north end and a smaller one near the center. There are also about 200' of miscellaneous repairs at the south end. The south wall is about the same height and 450' long. It also needs miscellaneous repairs, including rebuilding about 60'. Some areas have mortar repairs and an old mortar parge coat at the top. It is likely that some of the wall damage is the result of the close proximity of the paved drive. Many of the stones have been scattered where collapses have occurred.

Recommendations

West Wall: Rebuild the areas in the wall that are displaying significant movement. Perform this work in a manner that respects the original materials. Use repointing mortar that is compatible with historic mortar in color, texture [aggregate, surface finish and joint profile], strength and location. Exercise care so as not to use a hard mortar and not to cover stones with mortar. Provide expansion joints with a resilient compressible filler.

North, East and South Walls: The deteriorating portions of the wall need to be reassembled where it has collapsed. Collapsed sections can be reassembled by collecting and stacking the scattered fieldstones. The stones in the intact sections do not appear to be systematically arranged. That is, they appear to be a row of deposited stones collected from adjacent fields. For the most part the walls could be reassembled by hand labor.

Interior Walls

Issues

The low field stone retaining wall extension of the receiving tomb has mortar joints and has been patched. The field stone units are intact and free of significant lateral or vertical displacement except for a partial collapse where the wall abuts the perimeter wall next to the entrance. The mortar is deteriorated, cracked and missing and needs to be chipped out and repointed.

Recommendations

The collapsed portion of this wall needs to be rebuilt and the rest of it needs to be repointed. New mortar should be relatively weak and soft to have some resiliency against seasonal movements. A Type N mortar only slightly stronger than a Type O should be used. It should be noted, however, that the field stone wall is probably dry laid and the mortar simply dresses the exposed surface of the wall. Therefore, seasonal temperature and moisture movements will continue to act on the back and front of the wall and gradually affect the repointed mortar. Extensive damage will redevelop in the mortar over the next 15 to 20 years unless the joints are maintained on an annual or biannual basis.

Mound Tomb and Vault Structures

Issues

Covered with ivy, the grey granite facade of the receiving tomb has the date 1868 on it. The approximately 11' high facade appears to be in good and stable condition. Paint in the padlocked iron door is failing and rust is apparent.

Recommendations

The receiving tomb appears to be in good condition and needs no work except for restoring the iron door.

Edging of Family Plots

Issues

All of the family plots that are edged have raised granite edging. Most [Conant, Congdon, Kingsbury, Love and Prince] have components that have slightly shifted from frost heaving and settlement. Edging at the Eaton plot requires no work at this time.

Recommendations

The edging needs routine maintenance work including resetting the stones. In order to prevent untimely displacement in the future, the corners can be stapled with stainless steel "dogs" or epoxy coated pins. The ground under and behind any reset stone should be good draining material. That is, if the ground behind the edging is found to be saturated or heavy with organic material, that material should be removed and replaced with gravel or crushed stone before covering with lawn. Likewise, if the foundation under the edging is disturbed or contaminated with saturated earth, it should be rebuilt on a foundation of compacted gravel or crushed stone.

BUILDINGS

Issues

A small wood maintenance building is located adjacent to the north exit. It has a brown textured plywood facade with an asphalt shingle roof. Some shingles are missing on the street side of the roof. The building was used for equipment storage, but now that lawn mowing is contracted out to a private vendor, the building is no longer needed.

Recommendations

Remove the building.

Wall along Corbin Road



FENCES AND GATES

Iron Fences and Gates

Issues

A double leaf iron gate, restored in 2000 by the Dudley Cemetery Restoration Society, is located at the south exit. One leaf has a bent hinge rod and some rust at the bend points. The only evidence of former gates at the other two gate openings is an iron pin on the south pier of the north exit.

Recommendations

Repair and paint the south gate.

Chain Link Fences and Gates

Issues

The maintenance building is surrounded by a 6' high galvanized steel chain link fence with barbed wire at the top. The fenced enclosure is about 24' square. Green vinyl privacy slats have been placed on the north and east sides of the fence. Vines are also present on the west fence facing the perimeter wall.

Recommendations

Remove the fence at the same time the building is removed.

Interior Fences and Gates at family Plots

Issues

There are a few stone posts with remnants of chains defining the edges of some family plots. The Brown plot has 4 rough finish granite posts with peaked tops. There were 2 eyelets on the sides of the posts. Some remain as well as some rusted chain. The Healy plot has 4 granite posts with exposed foundations. Each post has 2 iron eyehooks on the sides of each post. Some of the chain remains, causing some staining of the granite posts. The Rickard plot has 4 rough cut granite posts with iron eyelets at the top and center. No chains remain. One granite top is broken and another post is leaning.

Recommendations

Restore posts and chains with chains to match existing. Where no chain exists, do not restore the chain unless documentary evidence provides sufficient description of the historic chain used on a specific plot. Adapt chains so that they can be detached to facilitate maintenance.

SITE AMENITIES

Signs

Issues

At the center entrance there is a bronze plaque "To perpetuate the memory of Dr. John Eliot Eaton, 1756-1812" as well a bronze identification plaque "Corbin Cemetery - 1735." There is also a metal sign stating "Entrance Only" and a metal highway type sign near the entrance with cemetery rules and regulations.

The bronze plaques on the stone gate piers were erected by Mary Knight Conant in memory of her grandfather Dr. John Eliot Eaton. The bronze plaques were unveiled by Louise and Donald Corbin, descendants of James Corbin, in 1926. The bronze identification plaques were reportedly installed in 2000 by the Dudley Cemetery Restoration Society.

At the south exit are a bronze cemetery identification plaque and a metal sign stating "Exit Only - Do Not Enter." At the north exit are a bronze Eaton plaque, bronze cemetery identification plaque and a metal sign stating "Exit Only - Do Not Enter."

Recommendations

Interpretive signs would help provide an informative experience for visitors.

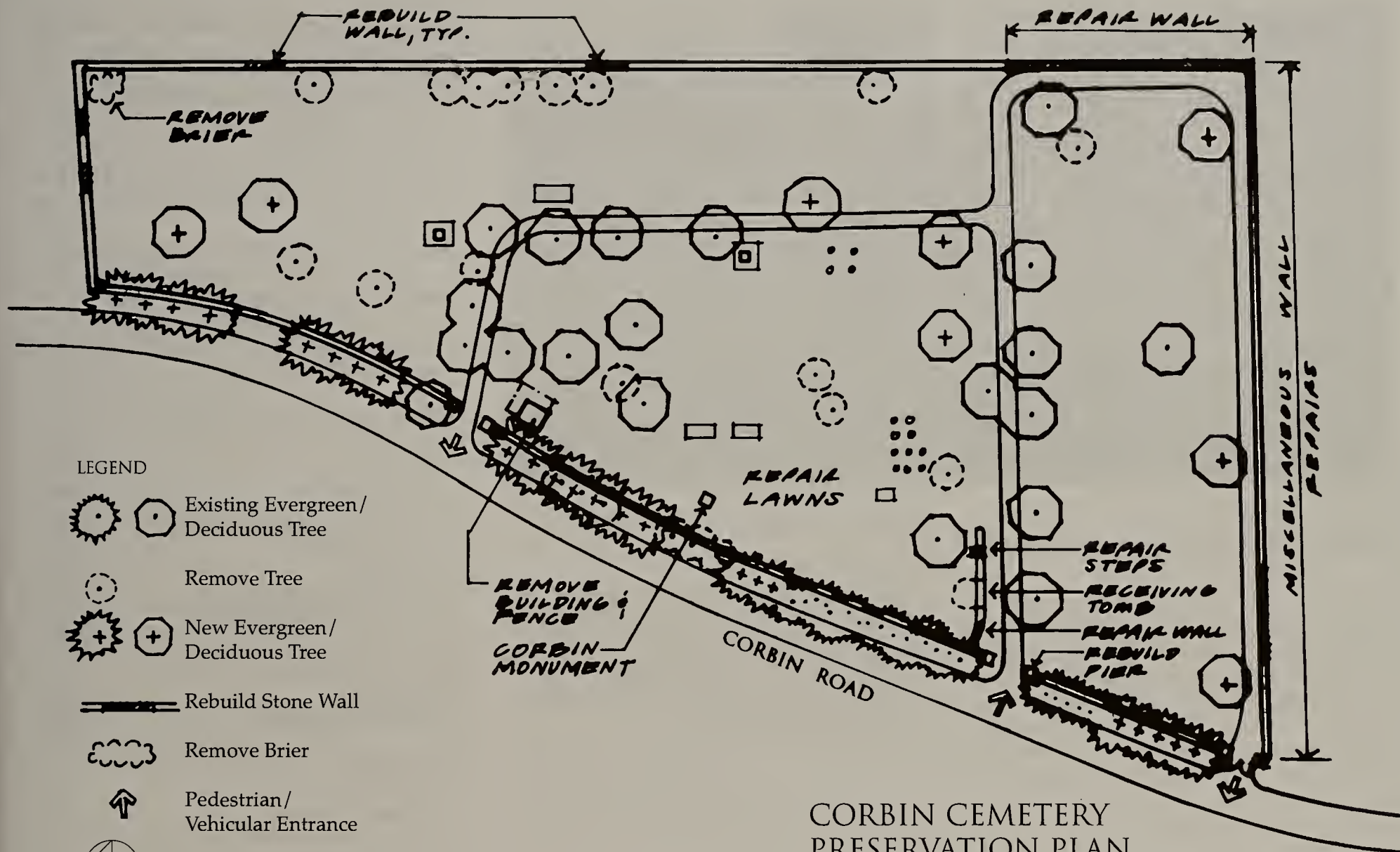
Trash Receptacles and Seating

Issues

No amenities of this type exist.

Recommendations

Do not provide benches or trash receptacles.



LEGEND

Existing Evergreen/
Deciduous Tree

Remove Tree

New Evergreen/
Deciduous Tree

Rebuild Stone Wall

Remove Briar

Pedestrian/
Vehicular Entrance



NORTH

MAY 2001
1" = 100'

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
SUZANNE SPENCER-WOOD, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

CORBIN CEMETERY PRESERVATION PLAN DUDLEY, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

UTILITIES

Drainage

Issues

The site slopes from west to east and all drainage occurs on the surface. No storm drainage structures were found.

Recommendations

No changes are recommended.

Water Supply

Issues

Hose bibbs are provided in the cemetery.

Recommendations

No additional water supply is recommended.

Lighting

Issues

No light fixtures were found inside the cemetery.

Recommendations

Do not provide light fixtures inside the cemetery.

PRIORITIES

High Priority

- Remove hazardous trees.
- Remove trees with large cavities, leaning into the cemetery, drives or grave markers.
- Replace trees inside the cemetery.
- Remove all invasive Brier.
- Repair lawns.
- Restore grave markers that present public safety hazards or are structurally unsound.
- Replace dowels in multipart stones that are visibly cracked or spalled.
- Conserve historically significant marble markers that are in danger of becoming illegible.
- Reset and repair slate markers.
- Repair broken stones if the inscriptions are legible and at least 75% of the stone is available.
- Protective coat marble Corbin monument.
- Earth fill at exposed monument bases.
- Repair Corbin Road wall.
- Remove maintenance building and fence.

Medium Priority

- Remove trees with large cavities, leaning away from drives and grave markers and not located in the front area where vehicles may drive.
- Replace dowels in multipart stones with visible metal stains at the junction between stones.
- Clean legible markers.

Costs associated with grave marker work have not been included. Refer to the General Recommendations section for approximate costs of various types of repair.

Low Priority

- Prune trees with a small amount of dead wood and branches, and trees protected from the winds in close to the edge or other trees.
- Additional planting along Corbin Road.
- Reset markers and monuments that have shifted or are leaning.
- Reevaluate and conserve marble markers that are currently in satisfactory condition, as necessary.
- Repair wall and steps next to receiving tomb.
- Repair dry laid stone perimeter walls.
- Restore iron door at receiving tomb.
- Reset family plot edging.
- Restore posts and chains at family plots.
- Provide interpretive signs.

PRIORITIZED COST ESTIMATES

High Priority

Tree removals	\$1,900
Tree pruning	2,800
Tree support systems and fertilization	2,500
Tree replacements	3,200
Lawn repairs	10,000
Corbin Road wall repairs	32,000
Remove maint. bldg. & fence	<u>2,000</u>
	54,400

Medium Priority

Tree pruning	5,900
Tree support systems	<u>500</u>
	6,400

Low Priority

Tree pruning	200
Additional planting	9,600
Repair north, east and south walls	27,000
Repair wall next to receiving tomb	3,000
Restore door at receiving tomb	2,000
Reset family plot edging	4,000
Interpretive signs	<u>10,000</u>
	55,800

National Register Status: Listed as part of
Sterling Center
Historic District
Current Management: Dept. of Public Works
Status: Inactive
Condition: Fair



View from Clinton Road

CHOCKSETT CEMETERY

STERLING, 1736

Called Chocksett, the "land of the foxes", this is the oldest cemetery in town, located east of and near the town center between Clinton Road [Route 62] and Maple Street. This roughly rectangular 3.3 acre site has also been referred to as Old Village Burial Ground, Kendall Hill Cemetery and Old Chocksett Cemetery.

Sandwiched between undeveloped land and residential uses the cemetery contains the remains of the town's five earliest settlers, Gamaliel Beaman [d 1745, the earliest legible marker found], Benjamin Houghton [d 1764], Samuel Sawyer [d 1784], brothers David [d 1771] and Deacon Jonathan [d 1766] Osgood. In addition to Revolutionary War leader Colonel Asa Whitcomb [d 1804], soldiers of the Indian Wars, French and Indian War, Revolutionary War and War of 1812 are also interred in the original one acre section. Additional acreage was purchased about 1818 and 1838 from Augustine Holcomb allowing the later burial of Civil War soldiers and other community members. The most recent burial occurred in 1965.

The terrain in the oldest section at the north end of the site rolls dramatically and appears unchanged from when the cemetery opened. It also has a high percentage of slate markers. The area of the last addition to the south is relatively level and may have been smoothed over to facilitate burials. It has many family plots and is more expressive of the character of a cemetery developed during the Victorian era. The topography of the central area is slightly rolling and it serves as a transition area in the development of the cemetery with a mixture of slate and marble markers and a few family plots. Long straight narrow passages between headstones facing north and south are still evident in this area.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The landscape is composed of lawns with varied terrain and primarily large old deciduous trees [Oaks and Maples] with one evergreen tree. Most of the trees are along the edges of the property with a few Oaks scattered in the interior of the older north end and Maples lining the single drive. The Clinton Road edge is relatively open allowing views to and from the cemetery. The Clinton Road realignment in the 1960's left a large open lawn area between the road and the cemetery.

Although the cemetery development and grave markers in the south end of the site have a Victorian character, the planting has not been sustained in the same style. Some perennials are however reportedly growing along the east edge in an area of volunteer growth.

Recommendations

Accentuate the different development phases of the cemetery with plantings appropriate to each phase. The north end and central section should be relatively open with few trees and no other plantings. The south end should be developed with more of a lush planted Victorian character. This may include restoration of the perennials in the area based upon definitive evidence of those plantings.

Add planting in the public right of way along Clinton Road to provide some degree of screening of outside elements while not obscuring view of the cemetery.

Planting

Issues

The approximately 68 mature trees in the cemetery are mostly Maples and Oaks, with a few volunteer native Cherries and an Arborvitae. The south end of the site contains 2 shrubs including 1 Hydrangea as well as some reported perennials along the east edge of the south end. A few old stumps remain, generally cut off about 2' above grade. The DPW plans to remove 5 large dying trees.

Recommendations

Existing trees need a more aggressive approach in terms of removals and safety pruning. Remove at least 14 dead, dying and diseased trees as well as a great deal of dead wood that is present in standing trees to remain. Some trees have large cavities and/or storm damage. Cut stumps down to, but not below, finish grade.

A tree replacement program should be developed. It is understood that the DPW will provide appropriate replacements which should generally include replacement of the trees removed with the same species in the areas that they were removed from.

Volunteer Growth

Issues

An extensive area of volunteer growth including poison ivy and other volunteers is present along the east side. A young volunteer tree is also developing at the edge of the Wright family plot.

Recommendations

Remove all weed trees and volunteer growth.

Lawns

Issues

Lawn areas are in fair to poor condition with moss and herbaceous weeds evident in numerous locations as well as uneven settlement with many slightly mounded areas of old graves, depressions and some surficial erosion.

Recommendations

Repair lawn areas.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Pedestrian access is provided through gated entrances at the north and south. The pedestrian gates are typically closed and thus the vehicular gateways which are typically open are used. The route through the cemetery is used in part as a short cut by residents of a nearby elderly housing project to the Post Office on the opposite side of Clinton Road. Gradients along the drive in the north end of the site are too steep for universal access. In addition, when Clinton Road was reconstructed it was installed too high for the cemetery entrance, leaving a poor grade transition into the cemetery.

Recommendations

No changes are recommended for pedestrian access. Universal access should continue to rely on vehicular access routes.

Vehicular Access

Issues

There are two points of vehicular access, one from Clinton Road and one from Maple Street, each with a 12'-8" clear opening.

Recommendations

This system appears sufficient for the visitation requirements and no changes are recommended.

Security

Issues

The site is essentially open. The two vehicular access points are gated but apparently never closed. Perimeter walls are relatively low with breaches and can be easily scaled.

Recommendations

Security is apparently not a significant issue on this property and improved measures should not be pursued at this time.

VANDALISM

Issues

There is some evidence of vandalism in the form of numerous broken and toppled grave markers. Although this is reputedly not a current problem, recent activities have targeted the Allen/Parker tomb with attempts to break in and abscond with the contents. There are wooded areas to the east and west, and the latter has some trash and debris scattered throughout.

Recommendations

Vandalism is not a significant problem and no changes are recommended at this time other than grave marker repair.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

There is a single gravel road connecting Clinton Road [route 62] and Maple Street. There is no formal pedestrian circulation system. Covered with grass throughout, the pedestrian system is informal.

Recommendations

No changes to the circulation system are recommended at this time.

Steps

Issues

The only steps inside the cemetery are related to the Bartlett and Wilder family plots and they are in good condition.

Recommendations

No improvements are recommended.

Roads

Issues

The one lane gravel drive is in fair condition despite the maintenance requirements. In a few areas trees constrict the clear width to 10'.

Recommendations

Maintain the drive as is. It should not be widened because of the potential for intruding onto graves close to the road.

Pavement Materials

Issues

Other than the bituminous pavement from the public roads to the entrance gates, gravel is the only pavement material in use. It is apparently minimally maintained and lightly used as grass is growing in the center strip. All walking surfaces are grass with no defined circulation system.

Recommendations

Gravel is a historically appropriate material for drives and it should remain as long as it is properly maintained. Surface materials for walks should remain grass until visitation reaches the point where it is no longer practical to maintain lawn. At that time a paved path system should be considered.

GRAVE MARKERS

Headstones and Footstones

Issues

Based upon a 1918 inventory, the cemetery contains at least 1,300 grave markers, not including foot stones. Gravemarkers were also inventoried and photographed in the 1960's. Volunteer efforts subsequently repaired and reset a small number of stones. In 1994 Rosanne Foley, a Historic Graveyard Preservation Consultant, prepared a report that detailed the most badly damaged stones and prioritized conservation requirements. In 1999 the Historical Commission inventoried every gravestone and listed each stone that required cleaning, resetting and/or repair. The 1994 report noted 102 stones that need work including 31 that are broken. The rest need resetting and/or cleaning. The 1999 inventory noted 276 stones that need work including 53 that are broken.

The older north section contains primarily slate markers with stone carvers Paul Colburn [1761-1825] and James Wilder [1741-1794] of Lancaster represented. The south section has mostly marble markers, a few granite and one small zinc marker. There is evidence of lawnmower scarring. The Levistuart obelisk is leaning and an easy target for overturning. Severe settlement at the base has exposed about 1' of the foundation. While not as severe, this condition can be found at many of the taller markers. Continued erosion and settlement will lead to displacement of foundation stones and eventual toppling of these stones.

Recommendations

In general, follow the prioritized recommendations noted in the 1994 report. Reset head and foot stones that are leaning or toppled. Reset mismatched foot stones to their proper place. Repair broken stones. Clean lichen and other soiling from head and foot stones. Provide earth fill at the bases of taller markers where required to cover exposed foundations.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

The entire cemetery is enclosed by dry laid field stone walls that are reputedly part of the original cemetery. The boundary wall separating the original parcel from the 1837 addition was removed. The majority of the walls are free standing with a height of 2 to 3'. There are numerous breaches along the east and west edges. Dry laid retaining walls edge the north face and the north end of the west edge. The north face varies in height, retaining 12 to 36". The west face retains up to about 5' in height. All walls require localized resetting of stones. The west retaining wall appears to have lost many of the top courses of stones through erosion or settlement, exposing and undermining the foundations of the granite bases of the guard rail.

Recommendations

Provide localized resetting of stones in walls and repair breaches.

Tombs and Vaults

Issues

The cemetery contains two mound tomb structures, the 1880 Fitch and Hastings double tomb with marble doors noting Kilburn and Hastings, and a single unnamed tomb that is referred to as the Allen/Parker tomb. The double tomb has a granite face and wing walls, and a decorative marble top. The structure appears sound, requiring some minor repointing and erosion repair at the wing walls. The Hastings marble door is broken and rusting iron pin connections are hastening the fracturing process. Tan sealant or adhesive has been hastily applied to a portion of the panel. There are 3 small free standing planters on the top of the tomb. Their scale and character indicates that they may not be original to the tomb.

The door of the granite faced single tomb is missing and has been replaced with plywood. The large granite cap stone over the entrance has shifted outward about 1". Erosion is evident along both sides of the tomb face.

Recommendations

Repair the Hastings marble door and replace the unnamed tomb door. Clean the granite and marble, repoint as necessary and repair the erosion at the sides of tomb entrances.

Edging of Family Plots

Issues

Numerous family plots have granite edging. Most [Bartlett, Bailey, Houghton, Jewett, Kendall, Porter, Waite and Wilder] have slightly shifted from frost heaving and settlement. One [Bailey] has an exposed foundation and another [Breck] has heaved from an adjacent tree. The small markers at the Houghton plot edging are unsecured.

At least nine other family plots have granite perimeter posts that once supported chain enclosures. Some of these also have edging. All of the chains are missing. The Conant family plot has 6 granite posts and edging with many of the eyebolts remaining in place for a double chain enclosure.

Recommendations

Reset granite edging as required and add earth fill at the base and top of the edging where necessary. Secure the small markers to the Houghton plot edging. Restore the granite posts and chain where possible based only upon evidence of actual former components.

FENCES AND GATES

Issues

Nellie Reed [1843-1900] Memorial Entrance Gates
South Entrance Gate: Four cut granite piers support decorative cast iron gates including a central double leaf vehicular gate and single leaf pedestrian gates on each side. All gates are hinged from the two taller [approximately 8' high] central posts. End posts are about 5' high. There is a 12'-8" clear opening at the vehicular entrance and a 3'-10" clear opening at pedestrian entrances. The tall central posts have decorative caps that have been displaced and improperly reset. Gate bottoms are buried in earth preventing free swinging. The cast iron is in good condition with some rust evident.

North Entrance Gate: Three cut granite piers support a double leaf decorative cast iron gated vehicular entrance in the center and a single decorative cast iron pedestrian gate on the west side. It is identical in construction to the south entrance gate. A decorative granite cap requires resetting. The west vehicular gate leaf is bent at the end and there are 5 missing picket tops and a bent picket on the vehicular gates. Gate bottoms are buried in earth preventing free swinging. The cast iron is in fair condition with some heavy corrosion at the bottom of both vehicular gates on the bottom rails and pickets.

North Fence

A low iron post and rail fence is mounted on the fieldstone wall facing Clinton Road. The fence moves with the wall which is a dry laid, heavily chinked, rubble field stone retaining wall that needs some localized resetting. The cast iron fence support posts are 4" square and 22" high, variably spaced, typically between 5' and 6' on center, and anchored to stones in the top of the wall with a single pin. The fence has two horizontal 1" diameter pipe rails. Many of the posts are leaning, 2 are unsecured, and 4 have mortar bases to form a connection to the wall. A few of the post tops are twisted. Some of the rails are bent, 5 are unsecured, and 7 couplings are evident indicating replacement rails. A few rails have rusted through. Much of the fence is heavily rusted although some of it has an inappropriate silver paint.

West Fence

This iron pipe rail fence with a pair of horizontal rails is located adjacent to and above the west retaining wall in the older section of the cemetery. The posts are set on granite block bases. The fence is heavily rusted, although about 50' of the north end has been painted more recently. Some rust is also evident in this length. One area of the fence is significantly bent and has two vertical supports missing. This was apparently caused by a tree or large limb fall. Four other bent top rails were also apparently caused by tree or limb falls.

Fences at Family plots

The only remaining fencing at family plots is the Holbrook family plot enclosure. The thinly cast decorative iron fence panels are heavily rusted as are the decorative cast iron support posts. Some old silver paint remains, an apparent attempt to protect the iron. The fence is relatively intact with only one of the nine support posts missing along with a corner of the gate panel. The supports are set on granite bases and secured in place with tension rods.

Recommendations

Nellie Reed Memorial Entrance Gates [1843-1900]: Remove earth at base of gates for free swing. Restore ironwork. Clean, prime and paint iron work. Clean granite. Remove old paint drips and spatters. Reset decorative pier caps.

North Fence: After localized resetting of the retaining wall, restore the fence, replacing missing and inappropriate components. Clean, prime and paint the fence with an appropriate color.

West Fence: Repair and paint the fence.

Fences at Family plots: Restore the fence and gate at the Holbrook family plot by replacing missing pieces, repairing broken parts, removing rust and inappropriate silver paint, and then painting a more appropriate color.

SITE AMENITIES

Signs

Issues

A white painted wood identification sign is centrally sited along the north edge. A commercial sign is located nearby in the public right of way. It is a distraction in terms of visitors seeing the identification sign. There are also bronze plaques identifying the memorial gates at the north and south entrances.

Recommendations

Prepare, prime and paint the identification sign frame and support posts. Work with public officials and the owner of the commercial sign to relocate it to the opposite side of Redstone Hill Road. Clean and protective coat the bronze plaques. Add interpretive and/or informational signs at a later date.

Trash Receptacles, Seating and other Amenities

Issues

There are no amenities of this type inside the cemetery.

Recommendations

In general, the addition of these elements is discouraged. However, if benches are desired, they should be added only in the south end of the cemetery where they would be more appropriate, in the Victorian era portion of the site.

UTILITIES

Drainage

Issues

No drainage structures are evident. The site drains on the surface with a gentle slope toward the west.

Recommendations

No changes are recommended.

Water Supply

Issues

While there is no source of water inside the cemetery, there is a fire hydrant outside the site on the north side.

Recommendations

No changes are recommended in terms of water supply. However, if the former richly vegetated character of the south end is restored, it would be advantageous to add a source of water at the end of the drive from Maple Street. Because excavation for the water line should follow the road bed, damage of archaeological artifacts should be minimal. As a precaution an archaeologist should oversee the excavation.

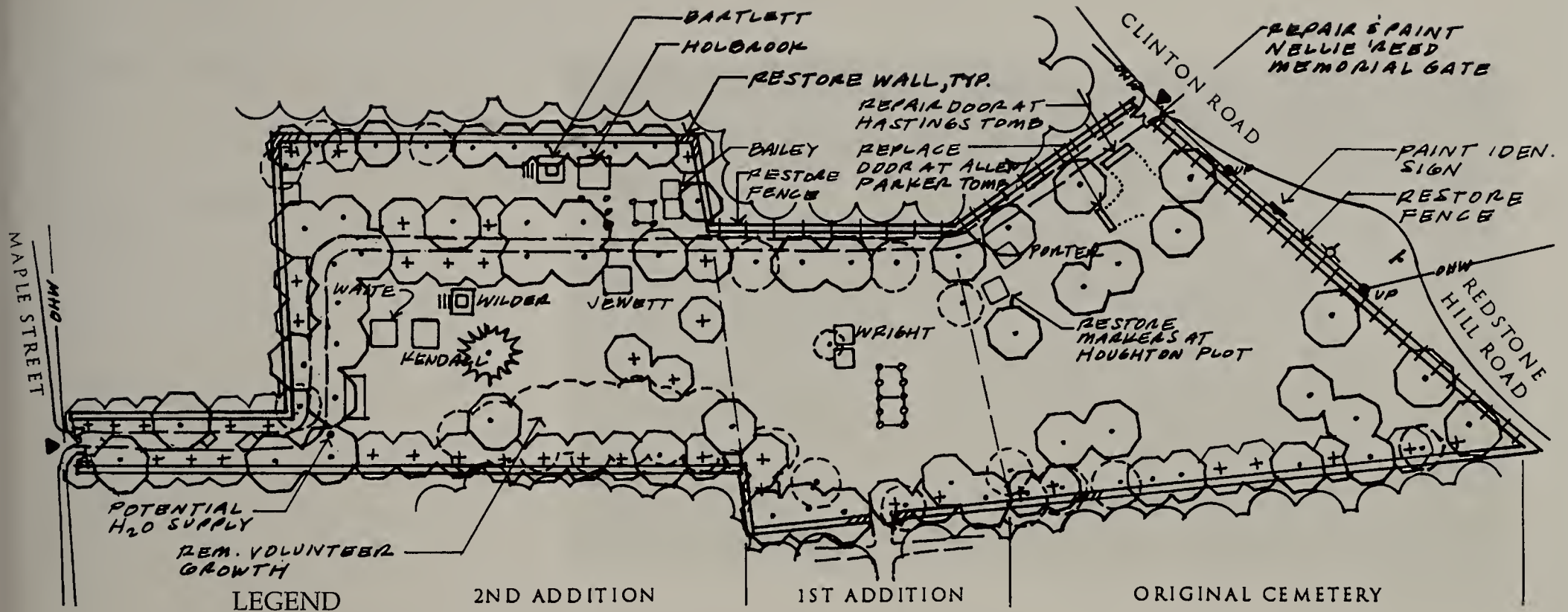
Lighting

Issues

No light fixtures were observed inside the cemetery. Some residual light may be available from the adjacent roads on the north and south sides where overhead wires abut the edges.

Recommendations

Do not provide light fixtures in the cemetery. Consider relocating the overhead wires to the opposite sides of abutting streets.



- | | | | |
|--|---------------------------------------|--|-----------------------------------|
| | Existing Evergreen/
Deciduous Tree | | Ex. Stone Wall |
| | Remove Ex. Tree | | Ex. Stone Wall
with Iron Fence |
| | Remove Volunteer
Growth | | Repair Wall |
| | New Tree | | Existing Sign |
| | Existing Drive | | Fire Hydrant |
| | Vehicular/
Pedestrian Entrance | | Utility Pole |
| | | | Overhead Wire |

CHOCKSETT CEMETERY PRESERVATION PLAN STERLING, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
SUZANNE SPENCER-WOOD, CONSULTING ARCHAEOLOGIST
NOVEMBER 1999 SARA B. CHASE, PRESERVATION CONSULTANT
1" = 100' OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

PRIORITIES

High Priority:

- Stone conservation including resetting and repair of markers and pin replacement in marbles that are visibly cracked or spalled
- Vegetative pruning and removals including volunteer growth
- Repair of structural items like perimeter walls and tombs
- Lawn repairs including earth fill at obelisks

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base, and cleaning legible markers
- Restoration and repair of entry gates and perimeter fencing
- Family plot restoration and repair [edging, fencing, chains and gates]
- Fertilization of trees
- Identification sign and bronze plaque maintenance

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition, and resetting mismatched foot stones
- Informational and interpretive signs
- Additional planting
- Consideration of adding water supply

Another consideration to protect the overall historic visual character of the cemetery would be to acquire or obtain protective easements on the large wooded parcels immediately east and west of the cemetery. This heavily vegetated character provides a strong complement for the era that the cemetery developed. The hillside on the east side is particularly important in that it overlooks the cemetery and provides an important wooded backdrop. The low area on the west side also provides an important wooded edge.

National Register Status: Listed as part of
Sturbridge Common
Historic District, also
Inventoried.
Recommended Eligible
Current Management: Public Works Dept.
Status: Inactive
Condition: Fair



OLD BURIAL GROUND

General view from north
STURBRIDGE, c. 1740

This 1.5 acre burial ground was opened about 1740 and the last burial was made in 1894. No longer active, the site is located in the village setting of the Sturbridge Common Historic District, which is listed in the State and National Register of Historic Places. Across Main Street [Route 131] from the town common, the site is immediately below the red brick 1855 Center School building which more recently served as the town Police Station. Access to the building's cellar is obtained from the burial ground. The west wall adjacent to the building contains cement mortar and a dressed granite slab indicating that the original burial ground wall was altered when the school was constructed. Renovation of the building is anticipated to make it into a conference center.

The school is sited near the site of the first Congregational Church in Sturbridge. The church was organized in 1736 and the meeting house was built the same year. The meeting house and burying ground were located on a six acre tract, part of a grant by the heirs of Gurdon Saltonstall, one of the early Massachusetts governors. The building served as the first meeting house from 1736 to 1784 and the Baptist Meeting House from 1832 to 1838.

The site terrain undulates with small mounds separated by distinctive depressions. It slopes approximately 20' in 350' for an average gradient of almost 6%, although there are many areas with much steeper slopes, particularly the topographically interesting hummocks at the rear of the site. The center of the burial ground contains a large depression where subsoils are exposed, but no evidence of graves is visible.

The burial ground contains the remains of Sturbridge's first settlers, James Deneson, Experience Deneson and Moses Marcy, as well as Revolutionary and Civil War casualties, town officers, and the town's first three ministers [Caleb Rice, Joshua Payne and Otis Lane]. It was not originally enclosed. In the town meeting of 12 May 1794, almost half a century after the first interment, it was voted to enclose the burying ground with a wall. Veterans of four companies of Revolutionary soldiers from Sturbridge built the stone wall with each company building one side. The wall was rebuilt following the Civil War.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

This burial ground contains too many trees, particularly evergreens. Few old burial grounds had more than a few trees prior to 1830. Most of the existing trees were not on this site at the turn of the century. Most were planted, with the exception of the trees growing next to the walls which are most likely volunteers. With an overall composition of 56% deciduous and 44% evergreen, insufficient light is able to reach the ground surface making it difficult to maintain a ground cover, increasing erosion potential and increasing biological growth on grave markers because of the higher moisture levels.

Recommendations

Tree cover should be significantly reduced, not only to make the overall image more historically appropriate, but also to allow more light to reach ground level increasing the ability to maintain a stable ground cover, reducing erosion potential, and creating a better environment for grave marker conservation.

Planting

Issues

There are 79 trees in this burial ground representing 12 species and varieties including 20 Sugar Maple, 6 Red Maple, 6 White Ash, 4 White Oak, 4 Norway Maple, 2 Black Cherry, 1 Black Oak, 1 Poplar, 17 Eastern Hemlock, 16 White Pine and 2 White Spruce. The quantity of shrubs and ground cover are limited but include Winged Euonymous, Barberry and Vinca.

The largest tree is a 44" diameter White Ash growing near the south wall close to the middle stone entrance. This may be the oldest tree in the burial ground. It appears to have decay throughout the main stems. While not recommended for removal, it should be checked from the crown to the root collars with a hazardous tree evaluation. A certified Arborist needs to climb into the tree to inspect the branches for cracks and decay.

Most trees along stone walls were not cut or disturbed because of their location. This is where some of the oldest and largest trees are typically found. However, with age comes deterioration and the invasion of disease, causing tree failure.

Recommendations

There are 26 trees with high priority for removal. It may be desirable to remove additional trees at a later date. Reasons for removal include deformed trees, interference with perimeter walls, decay in main stems, decline to the point of no return, surface roots with decay and close proximity to grave markers. A number of trees have either multistems or v crotches, making them prone to storm damage and failure in storms with winds of over 55 miles per hour, and snow and ice storms. A tree will always have a certain amount of breakage. However, support cables installed professionally have proven to prevent large branch breakage.

Most of the trees in the southeast portion of the burial ground have surface roots that have been damaged from foot traffic and maintenance equipment. These trees should be removed. Root failure is very unpredictable. However, when groups of trees are thinned from removals, the percentage of failures increases dramatically.

Trees should be cut only to the ground surface, and the remaining tree trunks treated to prevent further growth. Stumps and roots should not be ground below the ground surface.

Most trees have some dead or broken branches. Some trees are one sided from trees that were removed next to them. Pruning to remove dead branches that are 2 inches in diameter and larger will help prevent personal injuries and damage to grave markers. Pruning to reduce end weight on evergreen trees, especially White Pine, will also help to maintain tree structure and reduce damage to the burial ground. Raising lower branches will allow more light to the soil which will help other plant material to grow.

Trees like the Ash near the southwest corner that display outward signs of extensive internal decay within the trunks and root systems need to be checked from the crown to the root flare with a hazardous tree evaluation. One of the Hemlocks near the wall on the northwest side has signs of the Hemlock Woolly Adelgid insect. Treatment will reduce the spread of the problem and the decline of these trees.

A number of trees have been removed in the past few years leaving some open spaces. Even with all the problems noted, the trees in this burial ground have received some maintenance over the years. This is evident from old pruning wounds, stumps, open spaces, one sided trees and surface roots remaining from ground out stumps. Fertilization of mature trees would help preserve and prolong the life of all of these trees.

Volunteer Growth

Issues

Brier and other vegetation is starting to take hold along much of the southern edge of the site.

Recommendations

Remove all volunteer growth.

Lawns

Issues

Lawn areas are mostly in poor condition with numerous bare spots, moss, depressions, surface erosion, exposed tree roots and compaction caused by maintenance vehicles along maintenance routes. Native grasses and weeds have taken over in most sunny spots, most likely due to lack of fertility in the soil. There is no grass under the heavy foliage evergreen trees. The grounds have been maintained by the town Department of Public Works since 1987.

Recommendations

Restore lawn areas after tree removals have been completed. Procedures to prevent soil erosion should involve addition of material to the ground surface. No cutting into the ground surface should take place.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

The burial ground has two points of pedestrian access. The main entrance is on a steep, paved, one lane access road parallel to Main Street. It may be in the position of an original roadway. Parallel parking occurs outside the gate. The gate has an 8'-8" wide opening. The site slopes gently inside the gate and a grass path leads into the cemetery. A secondary informal pedestrian entrance has been created with the dismantling of the south stone wall at the rear of the site approximately 200' from the southeast corner adjacent to a privately owned playground. There is moderately steep access into the burial ground over lawn from this point.

Recommendations

The main entrance should remain on the Main Street side as it is the historic, most visible and most accessible entrance. Universal access is dependent upon improvements to the surface materials inside the cemetery.

Vehicular Access

Issues

Maintenance vehicles enter the site from Haynes Street to the west. Other vehicles are not allowed inside the burial ground.

Recommendations

This system appears sufficient for the current visitation and maintenance requirements and no changes are recommended.

Security

Issues

There is no security to the site because of the open pedestrian access, and relatively low and easily scaled perimeter walls.

Recommendations

Security is apparently not an issue on this property and improved measures should not be pursued at this time.

VANDALISM

Issues

Only minor vandalism has been reported and very little recently. An area with beer bottles was found near the front and a broken picnic table at the rear. Vandalism noted by Fannin-Lehner included broken stones and scratched graffiti. Some of the broken stones might be attributed to the damage caused by the hurricane of 1938 which ripped the roof off the adjacent former police station. The presence and proximity of the former police station as well as some residential development may have had much to do with the limited vandalism.

Recommendations

Vandalism is not a significant problem and no changes are recommended at this time other than grave marker repair and consideration of increased police patrols.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

Relatively informal grass/dirt routes used by maintenance vehicles wind through the site. These routes form the circulation system. The principal access way into the burial ground is clearly visible from the main gate for approximately 40'. Although the last burial was made around 1894, circulation patterns leading into the center of the burial ground may be contemporary with 20th century use.

Recommendations

Maintain the existing system. Do not add a path system. Traffic patterns from the front gate into the burial ground should be enhanced rather than disguised, because it provides visible evidence of site usage. The informal pedestrian access way created along the southern wall and the vehicular entrance at the southwestern corner should not be repaired or closed, as they represent integral parts of the burial ground's history and developmental sequence.

Pavement Materials

Issues

All walking and driving surfaces are grass or earth.

Recommendations

Surface materials should remain grass until visitation reaches the point where it is not longer practical to maintain lawn. At that time a paved path system should be considered.

GRAVE MARKERS

Headstones and Footstones

Issues

An inventory was made of all gravestones in 1995 by Fannin-Lehner as well as assessment and conservation report in 1996-97. A total of 568 grave markers were noted with 157 requiring varying degrees of conservation with an estimated cost of \$47,205. The markers are primarily slate with many marble and some brownstone. The town is currently in the 4th year of a 5 year grave marker conservation program. Work began at the low end of the site and has progressed uphill. Training has also been provided for headstone maintenance.

Recommendations

Continue with the grave marker conservation program. The small pile of crushed stone at the rear of the site that was left over from recent grave marker conservation efforts should be removed. A very careful pedestrian survey along the entire perimeter of the burial ground will identify where several slate markers have been placed on top of or at the base of the burial ground walls. The position of these markers should be carefully recorded on burial ground maps, and the markers removed for safe keeping in consultation with preservationists.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

Perimeter walls are primarily dry laid fieldstone, small portions of which have been repaired with cement mortar and modest brick rubble. The front or north wall facing Main Street is dry laid fieldstone with flat fitted cap stones that are approximately 28" wide. The 30" high wall follows the grade. Near the upper end of the wall, the main entrance is framed by 3' square mortared stone gate posts that are about 5' and 6' high. The cap, parged on top, projects slightly. A stone is missing from the back corner of one of the caps. Selective repointing is required at the gate posts.

Most of the west wall retains earth above the burial ground. The west wall is approximately 4' high adjacent to the former school building. Some mortar has been placed in the upper courses of the dry laid wall and some stones are missing. The central area of the wall is 2 to 3' high with two 6' long granite slabs placed at the top of the wall. A partial collapse occurred at the 4' high corner where the wall turns. Many stones have fallen out of the wall beyond this point. A vehicular entrance was opened through the free standing south end of the west wall.

The south and east walls are free standing. Where the south wall passes an adjacent private building, there is an area of minor wall collapse and another area of wall disturbance. Near the midpoint of the south wall, an 8' wide breach was created near a low point to serve as an informal pedestrian entrance. There is some localized damage at another low point further east. The east end of the wall is approximately 3' high and it reduces in height to about 2.5' high along the east side. Localized disturbance is apparent adjacent to the dumpster along this edge.

Some repairs to the stone walls have been provided by volunteers like the Lion's Club and Boy Scouts. Along the eastern wall, about 103' from the northeast corner, disturbed subsoils, poured cement conglomerations and displaced fieldstones reveal where the wall was repaired after ice storms 2 or 3 years ago. In the same vicinity several broken slate markers are resting face down on the top of the wall. A modest rubble pile consisting of brick and slate is visible approximately 28' north of the south east corner wall and modern, stamped bricks are embedded in the ground surface outside the burial ground around the southeast corner. Along the southern wall, approximately 5' south of the Curtis family markers, fragments of a broken slate marker lie on the ground at the base of the wall. Small slate fragments are also visible along the northern wall, approximately 50' west of the main gate. A small slate marker with an urn and willow motif closely abuts the western fieldstone wall, and a small slate marker for Oliver Stone is perilously close to the eastern wall, at the base of a huge tree. Along the western wall, close to the adjacent school shed, an anomalous feature was built into the wall and dressed with fieldstones and cement mortar.

Recommendations

Provide selective repointing at the gate posts. Repair perimeter walls, rebuilding collapsed sections and resetting fallen and displaced stones. Work with adjacent property owners to reduce disturbances to walls caused by their operations.

Volunteer helpers should document [in writing and with photographs] all the changes they make to the property, including repairs to perimeter walls. Particularly important is documentation of removal of slate markers previously used for wall repair, and the nature and source of repair material.

Mound Tomb and Vault Structures

Issues

The burial ground has one mound tomb, the Wight family tomb, near the Main Street entrance. Constructed with a shallow domed flat fieldstone roof covered with grass and a long marble marker face with brick backup, the face has collapsed.

Recommendations

The mound tomb should be restored. Disturbance to the ground surface around the tomb should be carefully monitored by an archaeologist. No material should be removed from the tomb entrance or top without careful documentation by an archaeologist.

FENCES AND GATES

Iron Fences and Gates

Issues

On the Main Street side of the burial ground is a decorative wrought iron double leaf swing gate that was the gift of Mrs. Joseph Fiske in 1920. She was the daughter-in-law of Josiah Fiske, founder of the textile mill in Fiskdale. The surface adjacent to the gate is flush with the ground beyond the burial ground, indicating that the entrance gate area has been filled and leveled. The gate has an 8'-8" wide opening and no lock. The gate has rust with some severe corrosion and needs restoration. On the left gate leaf, the bottom hinge point has corroded to the point that it is not attached and a couple of pickets are bent at the top. The bottom left corner of the right gate leaf has part of the ring missing as well as part of the bottom of the vertical frame piece.

Recommendations

Restore the gate.

SITE AMENITIES









Issues

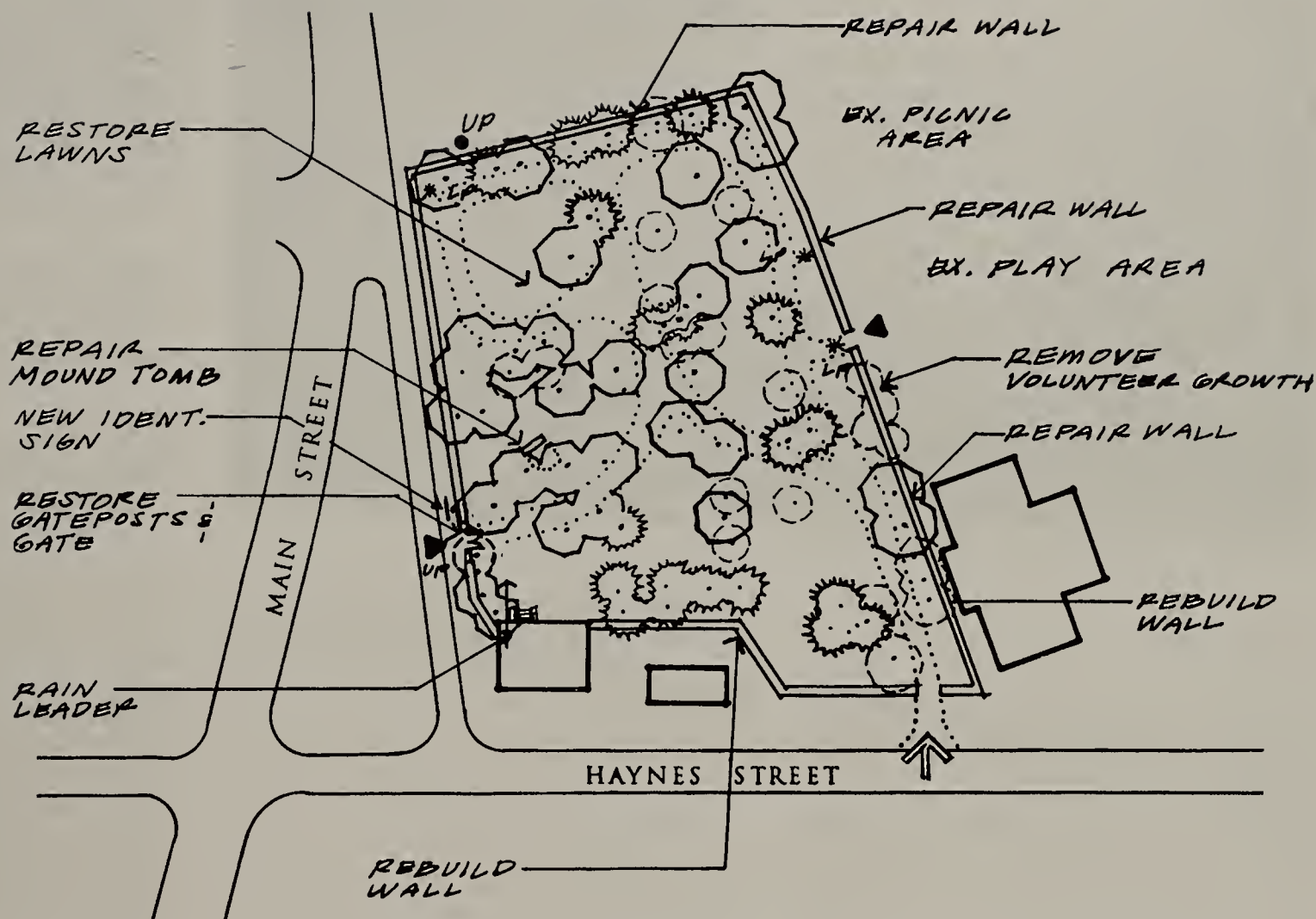
There are no site amenities in this burial ground, including signs.

Recommendations

An appropriate identification sign is important and informational/interpretive signs would be beneficial. Other than signs, do not add site amenities.

LEGEND

-  Existing Deciduous Tree
-  Existing Evergreen Tree
-  New Tree
-  Remove Existing Tree
-  Existing Stone Wall
-  Vehicular/ Pedestrian Entrance
-  Low Point
-  Utility Pole



OLD BURIAL GROUND PRESERVATION PLAN STURBRIDGE, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

NORTH

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

NOVEMBER 1999
1" = 100'

UTILITIES

Drainage

Issues

No drainage structures were found inside the burial ground. About 75% of the site drains on the surface and flows toward the northeast corner where it collects at the low point and leaches through the wall or into the ground. Some minor low points at the south edge of the property collect surface drainage before it flows onto adjacent property. A rain leader on the former Police Station discharges storm water onto the high point of the site.

Recommendations

Work with the adjacent property owner to resolve drainage from the roof leader before it becomes a problem.

Water Supply

Issues

No source of water was found inside the burial ground.

Recommendations

Water is beneficial in times of drought and would help to re-establish lawns. Work with adjacent property owners to provide hose bibbs or provide a source of water in the public right of way outside the burial ground walls.

Lighting

Issues

With no light fixtures inside the burial ground, there is spill light from adjacent buildings and perimeter streets. Two utility poles have anchor cables located inside the site, creating a potential disturbance to archaeological resources.

Recommendations

Do not add light fixtures inside the burial ground. Work with utility companies concerning utility pole and anchor support locations to protect historic resources.

PRIORITIES

High Priority

- Continuation of stone conservation program
- Vegetative removals and pruning
- Gate restoration
- Repair of structural items like perimeter walls and the mound tomb
- Erosion and lawn repairs
- Identification sign placement

Medium Priority

- Fertilization of trees
- Resolving roof leader discharges
- Consideration of adding water supply

Low Priority

- Informational and interpretive signs
- Additional planting
- Consideration of removing utility pole anchors

Concurrent with the ongoing preservation efforts, volunteers may wish to conduct historical research into the history of the old burial ground. Particularly important will be site plans and 19th century maps and atlases which show the configuration of the burial ground, the adjacent roadway, the abutting school building, and the original Meetinghouse which preceded the school. Town records may prove helpful for documenting changes to the burial ground, and monies spent on repair and modification to the perimeter walls when the adjacent school building was constructed.

National Register Status: Listed as part of
Town Center
Historic District, also
Inventoried,
Recommended Eligible
Current Management: Cemetery Commission
Status: Inactive
Condition: Fair



View to the south and Congregational Church

OLD CEMETERY

SPENCER, 1742

Established in 1742 as the first public burial ground in Spencer, this 3.5 acre hilltop site has views to distant hills to the south and southwest. The Old Cemetery is located above and just off Main Street [Route 9] behind the Congregational Church, the site of the 1771 Meeting House which burned in 1862. A historic landmark in a historic district, it has frontage on both North and Pope Streets bordering residential uses and David Prouty High School which was named after the shoe manufacturing Prouty family.

The central area of the cemetery slopes gently to the south and drops steeply at the south and southeast property lines, where a cliff like rock outcrop rises straight up from the churchyard below. The southeast and southwest corners of the property are defined by low, stone retaining walls that taper as the surrounding land rises to meet the grade of the cemetery. The north side and most of the west side are defined by loosely built fieldstone walls. The primary entrance is through formal stone pillars and iron gates on North Street, at its intersection with Powers Street.

First known as the West Parish of Leicester in 1744, Spencer was incorporated in 1775. The town's name honored Lt. Gov. Spencer Phipps. Two acres of land were donated by Nathaniel Cunningham to the town in 1740 for a meeting house. Half of it was used for a cemetery which was established in 1742, the same as the earliest noted death date, for Elizabeth Adams. Early burials were done haphazardly, not following any formal lot lines and the locations of many bodies were not marked. Additions were made to the cemetery in 1791 [1/2 acre], 1817 [1.5 acres] and 1857 [1/2 acre]. By 1860 improvements were made and the cemetery was divided into lots and ranges. A further land addition was made in 1872 when a trust fund was established by private individuals. The last addition occurred in 1914 with 4,000 square feet.

The cemetery is primarily Protestant, with many of the families still residents of the town and active in town leadership and business. It contains the remains of many war veterans including 54 from the Revolutionary War, 37 from the Civil War and at least one each from the Spanish American War and World War I. While all of the lots have been sold, there are occasional burials in family plots.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The character of the landscape is primarily open lawn with deciduous shade trees at the north, east and west perimeters and slightly inside west perimeter. Two evergreen trees provide some screening of the adjacent church. Only a few trees are perceived to be in the interior of the property. At least 16 trees were destroyed by the 1938 hurricane.

Recommendations

The general composition of vegetation should be maintained because it keeps the center of the cemetery open, screens adjacent uses at the edges and allows distant views to the south.

Planting

Issues

There are 39 trees inside the cemetery including 35 Maples, or about 90% of the total tree composition. A Beech and a Linden are sited near the gated entrance. The latter has sucker growth at the base and a healing frost crack. There are also 2 Spruce near the church. Shrub introduction has been limited with only a single Yew located in the southwest corner. The vast majority of trees are large, old and declining. Most have some dead wood in the crown and some have significant cavities, both presenting potential hazards to the historic resources of the cemetery. A large Maple in the southwest quadrant is severely impacting the edging of a family plot and others are restricting walk widths and the north drive.

Recommendations

Immediate priorities include pruning and cabling as necessary. Tree conditions should be monitored annually with removals when necessary. Additional large shade trees should be planted at the perimeter of the cemetery in locations where they will not impact grave markers, retaining walls or views.

Volunteer Growth

Issues

The impact of volunteer growth on the property is negligible with some evident on the northern edge on adjacent property which is beginning to impact the perimeter wall.

Recommendations

Work with the adjacent property owner to control volunteer growth.

Lawns

Issues

Except for erosion at the mound tomb, lawn areas are in fair condition with some moss and small bare spots.

Recommendations

Repair erosion and restore lawn areas.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

There are two pedestrian points of access, not including open drive access points which are also used by pedestrians. There is a 4 foot wide pedestrian gate on North Street adjacent to the drive with no walk on either side of the gate. The gradient inside the gate is too steep to be considered universally accessible. A walk up some steps on the west side of the church connects to a 3 foot wide bituminous paved walk north into the cemetery. The walk is too narrow and too deteriorated to be considered universally accessible.

Recommendations

No changes are recommended for pedestrian access. Universal access should continue to rely on vehicular access routes. Paved pedestrian routes should not be improved until the trees impeding access require removal for safety reasons.

Vehicular Access

Issues

There are four points of vehicular access, two on North Street to the east and two on Pope Street to the west. The narrowest opening is the 11 foot wide vehicular gate. With no defined parking areas, parking occurs on or along the drives inside the cemetery or on public streets outside the cemetery.

Recommendations

This system appears sufficient for the visitation requirements and no changes are recommended.

Security

Issues

The site is essentially open. Only one access point is gated and that is apparently always open. Perimeter walls are relatively low and easily scaled.

Recommendations

Security is apparently not an issue on this property and improved measures should not be pursued at this time.

VANDALISM

Issues

There is reportedly little vandalism, although a number of youths were apprehended and fined for damage they caused last year. Little of the impact of vandalism is evident except for a number of toppled and broken stones, most of which appear to have been in that condition for some time.

Recommendations

Vandalism is apparently not a significant problem. No changes are recommended to prevent future potential vandalism.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

There are two parallel roads running east-west connecting North and Pope Streets and a paved path running north-south along the west side of the site that provides access to the Congregational Church and Main Street.

Recommendations

No changes to the circulation system are recommended at this time.

Walks

Issues

Concrete walks were reportedly laid out in 1872 when a trust fund was created to provide care and improvements. No evidence of them exists today. A single 3' wide paved bituminous concrete walk runs north-south, parallel to Pope Street. It is in poor condition with trees growing into it, deforming the surface and reducing the width.

Recommendations

The paved walk should be removed and replaced with bituminous concrete at a 4' width once the trees impeding access are removed.

Steps

Issues

At the west side of the church, a series of dry laid, crudely dressed granite steps provides access from Main Street to the cemetery. Treads and risers are uneven and an intermediate landing is washed out underneath. The steel pipe handrails do not comply with today's Building Code requirements. These steps may not be part of the cemetery as they appear to be on church property. There is also one buried step or threshold at the walk north from the central road.

Recommendations

For safety reasons, barricade the entrance at the west side of the church to prevent access from the granite steps until the church has rebuilt or removed them.

Roads

Issues

Two paved drives, approximately 10' wide, traverse the site in an east-west direction. The bituminous concrete surface is deteriorated and in poor condition with the crushed stone base course serving as paving for much of its length. There is a road hazard at the northeast corner where the edges are depressed and the center is raised. Trees are growing into the northernmost drive. Access to the central west entry is steep.

Recommendations

The two roads should be removed and replaced.

Road Edging

Issues

Roads are typically not edged except for a short length of thin marble retaining a low steep embankment along the south side of the northeast service entrance. The stone appears to be grave marker material.

Recommendations

Remove the marble edging and regrade the embankment to a stable slope. Work should be performed in conjunction with an archaeologist to insure protection of any potential historic resource in this area.

Pavement Materials

Issues

Bituminous concrete is the only pavement material here and it is in very poor condition.

Recommendations

If paved surfaces are not heavily snow plowed, they should be replaced with a chip sealed bituminous pavement to present a character more in keeping with the historic nature of the cemetery. Snow plowed surfaces should remain bituminous concrete.

GRAVE MARKERS

Headstones and Footstones

Issues

The collection of about 600 grave markers begins in 1740 and continues through the 1980s. They are primarily slate and marble with the older slate stones on the south side, which contains more individual markers. The north side contains more family plots and granite markers. Publications cite four significant grave markers: the 1753 stone of William Sinclear; 1775 stone of Ann Cunningham; 1774 marker of Joseph Bigelow and 1791 marker of Artamus Lamb. The latter two have been attributed to the Sikes family of carvers who worked in western Massachusetts. To one writer the Lamb stone suggests that the Sikes family "were among the last carvers in New England to retain the purity of the older style when elsewhere in New England the neoclassical style was in ascendancy." The slate makers are generally well maintained, with most standing upright and stable. Several dozen slate markers are broken or split. Others have been repaired with iron straps or reset in concrete collars or foundations. A number of markers are leaning or toppled.

Recommendations

Tilted and toppled stones should be reset in compacted gravel [some conservators recommend pea gravel], beginning with toppled slate markers. Concrete foundations or collars are not recommended. Stones that have already been reset in concrete should be left as is.

No attempt should be made to reassemble the broken slate markers in situ. Pieces of broken stones should be stored in a sheltered location, preferably inside. For broken or highly weathered markers of important personages, consider placing a replicate marker or full size photograph on a Plexiglas marker at the burial site. No attempt should be made to remove or reverse old repairs to slate markers, as removal will damage the stones. Approximately 70 markers would benefit from cleaning. Biological growth is minimal, but can be carefully removed if resources are available. Removing surface biological growths will improve the appearance of the stones and will slow down weathering if done carefully.

Monuments

Issues

There are several marble and granite obelisks. Two of them are leaning and one has been broken and reset. Settlement is apparent at the bases of some of them, exposing foundation materials.

Recommendations

Reset leaning obelisks to a vertical position and provide earth fill to cover exposed foundations.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

North Street wall: Along the east property line, this wall is assembled of large, dry laid stones capped with wide, shallow slabs of stones. Starting as a four foot high retaining wall at the southeast corner of the cemetery, the wall tapers up to 1' high where it meets the low entrance wall and pillars opposite Powers Street. The wall is generally stable except it appears that the upper stones are gradually shifting outward in the section of wall just south of the entrance gate. The ground rises steeply at this location and may be creeping downhill, plowing the wall over as it shifts. After the gate, the wall remains about a foot high. At the northeast corner, a service entrance cuts through the wall. It has a 12-1/2" square granite post on each side. One of the posts has been snapped off and glued back together. The glue however has failed and the upper piece simply sits loosely on the lower part.

North Street main entrance [Draper Memorial gate]: The main entrance consists of a double leaf vehicular iron gate mounted on large 8'-8" high stone pillars. Low stone walls sweep away from the pillars to meet shorter 3'-8" high stone pillars and then to the property line walls discussed above. Both the pillars and the low walls are built of well mortared, small, uniformly sized stone units. The top of the each pillar is capped with domes made of the same small units. The entrance stone work is in generally good shape although maintenance is needed. The domes and upper courses of the pillars are cracked and need resetting and repointing. One of the low walls has a large vertical crack that needs repair. Except for a few other hairline cracks, the stone pillars and low walls are in good condition.

North perimeter wall: The north property line is defined by a loosely built fieldstone wall interrupted occasionally by tree trunks and roots.

Pope Street perimeter wall: Along the west property line, a loosely built fieldstone wall bounds about two thirds of the cemetery's length adjacent to the street. The cemetery is at the same level as Pope Street until the street starts to curve toward the west. The south end of the wall is defined by concrete posts with jagged stones set vertically into the tops. As the street curves away, the adjacent David Prouty High School property drops gradually along the remaining third of the cemetery yard. The cemetery ground adjacent to the school property is retained by a stone wall. Access from the schoolyard is prevented by a chain link fence. The wall is densely covered with leaves and undergrowth. At the southwest corner of the cemetery, several stones have fallen out of the wall, leaving a large gap under the chain link fence. Remnants of a concrete cap remain where the stones are missing.

South Property Line. The south property line is defined by the cliff like drop in elevation from the cemetery down to the churchyard. No safety features exist to prevent people from falling over this edge. The back wall of the church is only 2' from the cliff wall. The rock outcrop along the south property line is irregular in height, although it descends gradually from the back wall of the church along the parking area behind the parish hall until it is less than 4' high at the southeast corner of the cemetery. The undulations of the outcrop are filled with stonework in order to maintain a uniform grade in the cemetery grounds. The stonework is generally dry laid without mortar except for one well mortared section that was rebuilt recently. This rebuilt area also has PVC pipe weepholes at the base of the wall.

Recommendations

Some localized maintenance is needed at the retaining walls and at the formal entrance. Maintain the stone retaining walls by inspecting them annually and resetting any displaced stones. In the immediate future, reset the displaced stones on the east wall and rebuild the missing stonework at the southwest corner. Rebuild the dome stonework and upper courses of the gate pillars. Dismantle the stonework on either side of the crack in the low wall and rebuild it. Alignment of vertical or near vertical joints should be avoided. Repair the broken corner post at the service entrance with pins and epoxy. Consideration should be given to providing a transparent safety feature, like a fence or barrier rail, at the top of the south wall for public safety while maintaining the view.

Mound Tomb and Vault Structures

Issues

Receiving Tomb: Facing the North Street main entrance, the front of the tomb consists of three, 6" thick slabs of dressed granite. The joints of the jambs and lintel are open but there is no significant displacement or settlement. Although the iron door of the tomb is chained and padlocked shut, it can be seen that the interior walls are cemented or plastered. The underside of the stone slabs that roof the vault are untreated. The thickness of the stone side walls appear to widen as they descend downward. The earth embankment has eroded away at the front of the tomb on both sides. Because of the impossibly steep slope from the front of the tomb around the corner to the top, it is possible that the ground originally tapered around the corner and continued out in front of the tomb on both sides of the entrance jambs. The tomb appears to be stable and in generally good condition. The door should be opened and the interior inspected more closely for any damage from infiltrating water.

The door is in relatively good condition with rust evident at the base of the door, bottom hinge and near latch. It appears that water is trapped at the front of the door causing much of the rust. The vault has a small brick vent at the top of mound which has been set slightly below ground surface. It is open to the weather.

Recommendations

Dismantle the facade stones of the holding tomb, clean the joints and recondition the foundation stones and reassemble them in new beds of mortar. Open the door and inspect the walls and roof from the inside to determine if further work is needed. Regrade the earth banked around the sides of the vault and restore the eroded earth with appropriate slopes, if possible, to prevent future erosion.

Edging of Family Plots

Issues

Ten of the family plots are edged with rectangular granite curbs that retain a raised area of earth which usually has a monument centered in it. Some are in good condition, but many have suffered from settlement and/or overturning and have heaved or rotated out of position. The bottoms of the stones usually sit on a foundation of loose stones just below the ground surface. Stone corners are nominally pinned together with iron cramps. The Drake plot edging, on south side near Pope Street and the school, is being displaced and overturned by tree roots. The adjacent Rich plot has slight settlement. The Morse and Baxter/Lamb plots on south side have slightly shifted and settled. On the northeast side the Bemis and Whitmore plots have also shifted and need resetting. While the Pope and Capen/Jones plots on the northwest side suffer the same condition, the Morse and Packard plots near Pope Street appear stable.

Recommendations

Displaced edge stones should be reset and the ground raised adjacent to them to cover the foundations and bottoms of the granite edging. The existing corner pins are generally ineffective and should be replaced with concealed stainless steel angles and adhesive anchors. Alternatively, the stone foundations could be replaced with a continuous concrete pad and the edge stones could be set on top of the concrete on mortar beds, with vertical stainless steel pins connecting the two materials.

BUILDINGS

Issues

A small wood structure sited at the northwest corner is out of visual proximity of the cemetery. The maintenance building is about the size of a one car garage with wood siding and appears in good condition. A new metal overhead door was recently installed that is wide enough to allow maintenance equipment access.

Recommendations

A slightly larger structure is desired to better house maintenance equipment. It is preferred that this be a wood structure with a character compatible with the historic district. A more utilitarian structure would not severely impact this historic site if it were placed in the same location as the existing building.

FENCES AND GATES

Iron Fences and Gates

Issues

The 1913 James Draper [1778-1868] memorial gate at the North Street main entrance has a wrought iron vehicular and pedestrian gate. The former is a double swing gate with an 11' opening. While the south gate leaf is operable, the north gate leaf appears not to move. The single swing pedestrian gate with a 4' wide opening is operable but appears to be infrequently used. Both gates are sound and intact with no apparent missing pieces. The paint finish is failing and rust is evident on much of the surface.

Recommendations

Repair, prepare, prime and paint the gates.

Chain Link Fences











Issues

Initially erected as part of the 1949 G. Henry Wilson bequest, the 5 foot high chain link fence along a portion of Pope Street and the adjacent school is in fair condition, with no corrosion or damaged parts. Set in shallow concrete bases among loose fieldstones, the fence posts are tilted at various angles.

Recommendations

Fence posts should be reset in a vertical position for appearance reasons as well as to prevent leaning posts from becoming a hazard.

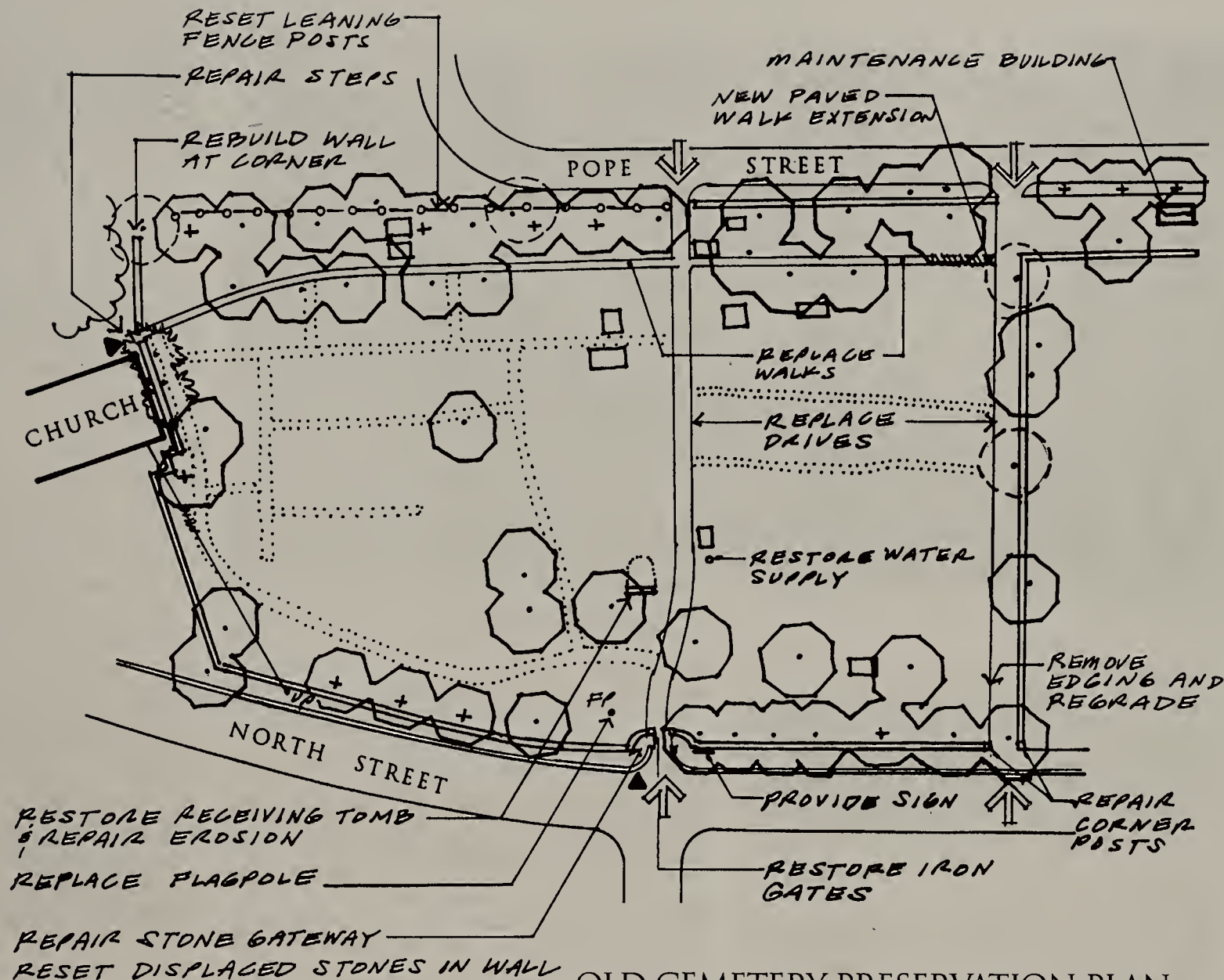
LEGEND

-  Existing Deciduous Tree
-  Existing Evergreen Tree
-  New Tree
-  Remove Existing Tree
-  Existing Stone Wall
-  Existing Chain Link Fence
-  Vehicular/ Pedestrian Entrance
-  Lawn Paths
-  UP • Utility Pole
-  FP • Flagpole



NORTH

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
NOVEMBER 1999 SARA B. CHASE, PRESERVATION CONSULTANT
1" = 100' OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST



OLD CEMETERY PRESERVATION PLAN SPENCER, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

Wood Fences

Issues

There are no wood fences on the site.

Recommendations

A desire has been expressed to install a new fence like the original picket fence. Further investigation in terms of the historic location and style of that fence needs to be completed prior to making a determination if such a fence is appropriate today.

SITE AMENITIES

Signs

Issues

The site is barely visible from Main Street and thus difficult to find. There are no directional, identification or interpretive signs. The only sign is on the inside face of the North Street gate, facing the cemetery, and commemorating the James Draper [1778-1868] Memorial Gate. It is painted silver.

Recommendations

An important first step would include providing a sign at the intersection of Main and North Streets directing visitors to the site, and an identification sign outside the North Street gate. The gate sign should be cleaned and restored. It would be beneficial to add interpretive signs.

Flagpoles

Issues

The cemetery has a single 30' high steel flagpole near the North Street entrance. It is painted white and heavily rusted.

Recommendations

The flagpole should be restored or replaced.

Other

Issues

There are no trash receptacles, seating or other amenities

Recommendations

While benches are not part of the historic plan, they would be beneficial in terms of taking advantage of the view and increasing visitation. The addition of benches in terms of style and location must be done so as not to detract from the primary experience of the cemetery.

UTILITIES

Drainage

Issues

No drainage structures were found inside the cemetery. In general, the site drains on the surface and flows toward the south side with some of the north side of the site being intercepted by the central drive and flowing east. No problems were evident.

Recommendations

No changes are recommended.

Water Supply

Issues

A source of water was located in the central area of the cemetery, but the water supply was recently cut off in North Street.

Recommendations

Water has numerous uses in a cemetery and service should be restored.

Lighting

Issues

There are no light fixtures inside the cemetery. Street lights on utility poles adjacent to the site provide some illumination. Overhead wires serving the church cross the cemetery at the southeast corner of the site.

Recommendations

No additional lighting is recommended. Work to place overhead wires underground or reroute the service such that it does not impact views to and from the site.

PRIORITIES

High Priority

- Stone conservation including resetting and repair of slate markers and pin replacement in marbles that are visibly cracked or spalled
- Vegetative removals and pruning
- Perimeter fence and gate restoration
- Structural items like perimeter walls and mound tomb
- Erosion and lawn repairs
- Road work
- Directional and identification sign placement
- Restoration of water supply

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base
- Family plot restoration and repair
- Path work
- Fertilization of trees

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Maintenance building replacement
- Informational and interpretive signs
- Additional planting
- Consideration of removing overhead wires

National Register Status: *Inventoried,
Recommended Eligible*
Current Management: *Cemetery Commission*
Status: *Active*
Condition: *Fair*



CENTER CEMETERY

Receiving Tomb
DOUGLAS, c. 1746

Located on Main Street, Route 16, Center Cemetery was originally part of the town's common which was also the site of the town's first school. It was closely associated with the First Congregational Church which is now located on the opposite side of Main Street and the Common along with a number of period houses. Surrounded by stone walls, the upper areas of the rolling terrain of the 2.5 acre cemetery have been terraced in part.

Said to date back at least to the town's incorporation in 1746, this is one of the oldest cemeteries in Douglas. It was enlarged at some point with the land of Joseph Richardson and others as well as some recent acquisition. While the high ground in the historic southwest section of the cemetery is no longer actively used, it is part of a larger active cemetery that is expanding to the northwest along Main Street.

Many of the prominent residents of Douglas are buried here, especially those who were not directly connected with the industrial development of East Douglas. It contains town pioneers William Dudley, Deacon Jeremiah Whiting and Benjamin Wallis as well as 46 Revolutionary War soldiers.

There are apparently a number of graves without markers since they are occasionally uncovered when new graves are dug. Several headstones placed immediately abutting the wall on Main Street indicate that the original graves once extended beyond the wall, or the markers have been moved from their original location. A brass IOOF marker and marble headstone have been placed immediately adjacent to the perimeter wall on the west, amid surrounding open space. The single marker amid open space, close to the perimeter wall suggests that it has been moved from its original location. Exposed subsoils in the western part of the cemetery probably represent material excavated from recent graves that is being used to create terraced slopes.

After the cemetery fell into disrepair in the early 1900's, a warrant was passed in the 1907 annual Town Meeting which allowed \$100 "for righting stones and other necessary work." Earth and rubble piles are evident in the northwest corner, both inside and outside the cemetery. A marble marker fragment visible in the western wall and some small slate fragments in rubble outside the cemetery represent material redeposited during episodic repair and site clearance.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The character of the landscape is primarily open rolling and terraced lawn with deciduous shade trees at the south and east perimeters. A short line of evergreen trees at the northeast corner blends in with the wooded parcel beyond. Only a few trees are perceived to be in the interior of the property.

Recommendations

The general composition should be maintained because it keeps the center of the historic area of the cemetery relatively open.

Planting

Issues

There are 24 trees inside the cemetery composed of 2/3 large deciduous shade trees and 1/3 evergreen trees with Maple, Oak, Ash, Cedar, Spruce and White Pine. Because most of the evergreens are at the rear of the property, deciduous trees appear to predominate. The majority of trees are large, old and declining Maples. Most have some dead wood in the crown and some have significant cavities, both presenting potential hazards to the historic resources of the cemetery. A large tree was recently removed next to the Sherman family plot in the center of the cemetery. The apparent former line of trees along Main Street has been significantly fragmented with losses. Some resprouting stumps remain.

Recommendations

Immediate priorities include pruning to remove dead wood and lighten crowns, and cabling as necessary. Care should be exercised when vehicles are used in these operations to insure protection of historic resources. Tree conditions should be monitored annually with removals when necessary. Trees should be removed to ground level only, and roots treated to prevent regrowth. Additional large shade trees should be planted immediately outside the perimeter of the cemetery along Main and Southeast Main Streets. As a precautionary measure, an archaeologist should monitor all the planting procedures along this edge.

Volunteer Growth

Issues

Volunteer growth is located along a short section of the top of the Main Street wall, in the northeast corner and along the north side.

Recommendations

Remove volunteer growth.

Lawns

Issues

Lawn areas are in fair to poor condition with bare spots and moss. No significant erosion was evident. Lawn care consists of mowing and leaf removal.

Recommendations

Repair lawn areas.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

With pedestrian access points on Main Street and Southeast Main Street, the two gateways are not considered universally accessible because of steep gradients at the former entrance and steps at the latter. Steep gradients make the Main Street side of the cemetery inaccessible. There are no paved paths inside the cemetery which also limits universal access.

Recommendations

No changes are recommended for pedestrian access. Universal access should continue to rely of vehicular access routes.

Vehicular Access

Issues

There are two points of vehicular access, one from Main Street and one from Southeast Main Street. With no defined parking areas, parking occurs on or along the drive inside the cemetery.

Recommendations

This system appears sufficient for the visitation requirements and no changes are recommended.

Security

Issues

There is no security to the site because it is enclosed with low perimeter walls that are easily scaled. The site has no gates and is always open. There is an occasional police patrol.

Recommendations

Security is apparently not an issue on this property and improved measures should not be pursued at this time.

VANDALISM

Issues

While there reportedly has been no vandalism since the 1960s, some broken glass was found at the pedestrian entrance on Southeast Main Street. The local Police Department makes occasional patrols through the cemetery.

Recommendations

Vandalism is not a significant problem and no changes are recommended at this time other than grave marker repair.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

There is one gravel road connecting Main and Southeast Main Streets. Covered with grass throughout, the pedestrian system is informal.

Recommendations

No changes to the circulation system are recommended.

Steps

Issues

There are stone steps at the Southeast Main Street entrance and at some of the family plots. All exhibit signs of settlement.

Recommendations

Reset the steps.

Roads

Issues

The one lane gravel road is in fair condition despite the maintenance requirements and steep slope from Main Street. Drainage from Main Street into the vehicular entrance was eroding the gravel road before a shallow asphalt berm was installed along the street edge, preventing runoff from entering the site.

Recommendations

Maintain the road as is. It should not be widened because of the potential for intruding onto unmarked graves close to the road.

Pavement Materials

Issues

Gravel is the only pavement material here. All walking surfaces are grass with no defined circulation system.

Recommendations

Gravel is a historically appropriate material for drives and it should remain as long as it is properly maintained. Surface materials for walks should remain grass until visitation reaches the point where it is no longer practical to maintain lawn. At that time a paved path system should be considered.

GRAVE MARKERS

Headstones and Footstones

Issues

On high ground facing the First Congregational Church, there are about 30 18th century markers. The earliest markers are unadorned slate slabs and granite, including markers for 46 Revolutionary War soldiers. Many of the older stones appear to be the elaborately carved work of Ebenezer Winslow of Uxbridge. Winslow signed the elaborate slate marker for John Taylor. Twenty less elaborate slate markers also appear to be his work. These bear faces with wings, surfaces, fronds and tendrils. Two other slates resemble the work of the Soule brothers of Uxbridge and Dudley. Some of the slates are very dark grey, nearly black. Some of the slate markers are broken, others are splitting.

Most of the historic markers are 19th century marble, signed by about a half dozen different workshops. Many of the Greek Revival marble markers are two part stones, with the memorial stone pinned to a marble base with metal anchors. The iron pins have rusted, cracking the marble and leaving rust stains near the base.

Some of the markers, mostly granite, are set in slotted bases without metal pins. Several of these have failed. The early 20th century polished granite memorials are generally in excellent condition, except for spotty biological growth. All stone varieties are subjected to biological weathering, in most cases a grey mold, in some instances a grey lichen.

Two zinc or "white bronze" markers are located at the high point of the site. Zinc monuments are recognized by their bluish tint and hollow sound when tapped. Generally the zinc monuments are in fair condition, although one is missing its finial figure, opening the interior of the marker to weather, and the second has a cracked flame finial. While there are no signs of corrosion from weather exposure, both are conditions that encourage accelerated deterioration if water intrusion is not stopped. One marker also has 4 missing panel bolts.

There are a number of leaning and toppled markers, including several large monuments, as well as some broken stones.

Recommendations

The first priority is to reset tilted and toppled stones. Reset all toppled and tilted root stones that do not have a base or foundation with sufficient gravel for drainage and reduced frost heaving. Reset all toppled stones on deeper and perhaps larger foundations beneath the base stones. The second priority is to remove metal pins from two part stones and reset them with noncorroding anchors or dowel pins. Third, the zinc monuments should be repaired to prevent water intrusion. Engaging a metals conservator who could advise on the various repair options is desirable. Both zinc monuments should be inspected annually for splits or evidence of slumping, a form of metal fatigue. Special care should be taken to maintain the foundations of zinc monuments so as not to introduce stresses that would result in metal damage. Finally, removing surface biological growths will improve the appearance of the stones and will slow down weathering impacts.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

Main Street Wall: This fitted and chinked stone wall retains the cemetery above the street. Varying in height from 12-33", it has an 18-22" wide rough hewn granite cap. A few face stones are missing in the wall. The vehicular entrance at the northwest corner is framed by 10" square by 45" high gate posts approximately 12' apart. One post has 3 eyebolts projecting from the face and the other has remnants of one. There are 33" wide pedestrian openings at each side with short granite posts [7-1/2" square by 30" high] centered in the space. Mortared stone end posts with peaked granite cap stones are 24" square by 48" high.

A pedestrian entrance near the center of the wall has a 5' wide center opening between 12" square by 33" high granite posts. Rings on top of the posts hold an iron chain that closes the opening. There are 15" wide openings between the posts and the adjacent perimeter wall. Embedded in the tops of the walls on each side of the entrance are 5 iron rings, spaced 10' on center, for tethering horses during funeral services.

Southeast Main Street Wall: Similar in construction to the Main Street wall, this wall also retains the cemetery above the street except for the east end which is free standing. It is generally in better condition than the Main Street wall except for some settlement at the intersection with the Main Street wall where some separation is evident near a free standing rough hewn granite post [9" square by 6' high] just outside the corner. The east end of the wall should be reset. The vehicular entrance near the southeast corner has a clearance of 13'-4" between 10" square gate posts that are 24 and 30" high to accommodate the grade change. The pedestrian opening on the west side of this entrance is 3' wide with a 10" square by 26" high granite post in the center. The pedestrian opening on the east side has an 11" wide opening.

A pedestrian entrance near the center of the wall is similar to the pedestrian entrance on Main Street with a 6'-3" wide opening between 8" square by 28" high granite gate posts. The posts have a similar ring and chain detail at the top. Rust jacking at the ring connection has cracked the top of the east post. There are 14" wide spaces between the gate posts and perimeter wall. This entrance also has 5 iron rings embedded into the top of the wall on the east side of the entrance at 10 feet on center, with one of the 5 rings missing.

East Wall: This 3-4' high stone retaining wall above the adjacent parcel is generally in good condition. One tree on the adjacent property is pushing into the wall.

North Wall: This free standing, piled stone wall is 18-24" high. It is not in great condition because of the type of wall construction.

Recommendations

Replace the missing face stones in the Main Street wall. Repair the joint separation at the Main and Southeast Main Street wall intersection. Reset the east end of the Southeast Main Street wall. Repair the east gate post of the Southeast Main Street pedestrian entrance. Work with the adjacent property owner to remove the tree impacting the east wall. Restore the north wall. It is preferred not to relocate this wall to the perimeter of the new cemetery expansion so that a defined and protective edge will be maintained at the historic section.

Mound Tombs and Vaults

Issues

Dug into the slope, the receiving tomb has an iron door and 6 steps leading down into a chamber with a concrete floor. No drain was found. The interior parged or plastered walls of the chamber have a painted decorative stencil design. The far wall has three circles, each about 16 inches in diameter, within which are lettered verses from the Scriptures.

The tomb is capped with a single granite slab roof covered with earth. The capstone is 10' wide, 12' long and 14" thick, representing 140 cubic feet of granite weighing 12 tons. The Blanchard quarry in Uxbridge was the only quarry in the vicinity equipped to cut and lift a capstone of this size. It was dragged five miles on a sled with hardwood runners, a "stone boat", by 25 yoke of oxen to the cemetery.

Although no longer used, the iron door is operable and in good condition, locked with a bolt mechanism. The outside of the door is painted black, but the inside is unpainted. Dirt and organic debris outside the door impede operation of the door. This material may be covering a dry well or other drain, which is necessary because the area currently traps water which will be destructive to the tomb.

Recommendations

The receiving tomb is an unusual structure and should be treated with care. Dirt and organic debris outside the tomb door should be removed under the direction of an archaeologist because it may contain evidence of historic landscape treatment. If a drain is found, it should be cleaned to function properly. If no drain is found, consideration should be given to providing one. The inside of the iron door should be painted to protect it from corrosion.

Edging of Family Plots

Issues

A number of family plots are edged with stone. Some are in good condition, but many have suffered from settlement and/or overturning and have heaved or rotated out of position.

Recommendations

Displaced edge stones should be reset and the ground raised adjacent to them to cover the foundations and bottoms of the stone edging. The existing corner pins are generally ineffective and should be replaced with concealed stainless steel angles and adhesive anchors. Alternatively, the stone foundations could be replaced with a continuous concrete pad and the edge stones could be set on top of the concrete on mortar beds, with vertical stainless steel pins connecting the two materials. Family plots, such as the Wallis plot, should be carefully documented and the location of "missing" plot boundary markers identified.

BUILDINGS

Issues

A small tool house, approximately 12'x12', is located near the northeast corner adjacent to the Southeast Main Street vehicular entrance. It has white painted vertical board wood siding with black asphalt shingle roofing.

Recommendations

The structure is apparently of sufficient size to house the necessary maintenance equipment. It has a character that is reasonably compatible with the historic area. No changes are recommended.

FENCES AND GATES

Interior Fences and Gates at Family Plots

Issues

One family plot has an iron gate and horizontal iron rails. A section of the railing was removed because of interference with a tree. The iron work is reasonably intact but heavily rusted.

Recommendations

Restore all ironwork and replace missing components to match existing. Replace the section of missing railing after the tree is removed.

SITE AMENITIES

Signs

Issues

A single bronze plaque by the DAR is secured to a vehicular gate post on Main Street. It identifies the cemetery and provides some interpretive information.

Recommendations

Add a more visible identification sign at the Main Street pedestrian entrance. Add interpretive and/or informational signs at a later date.

Trash Receptacles, Seating and other Amenities









Issues

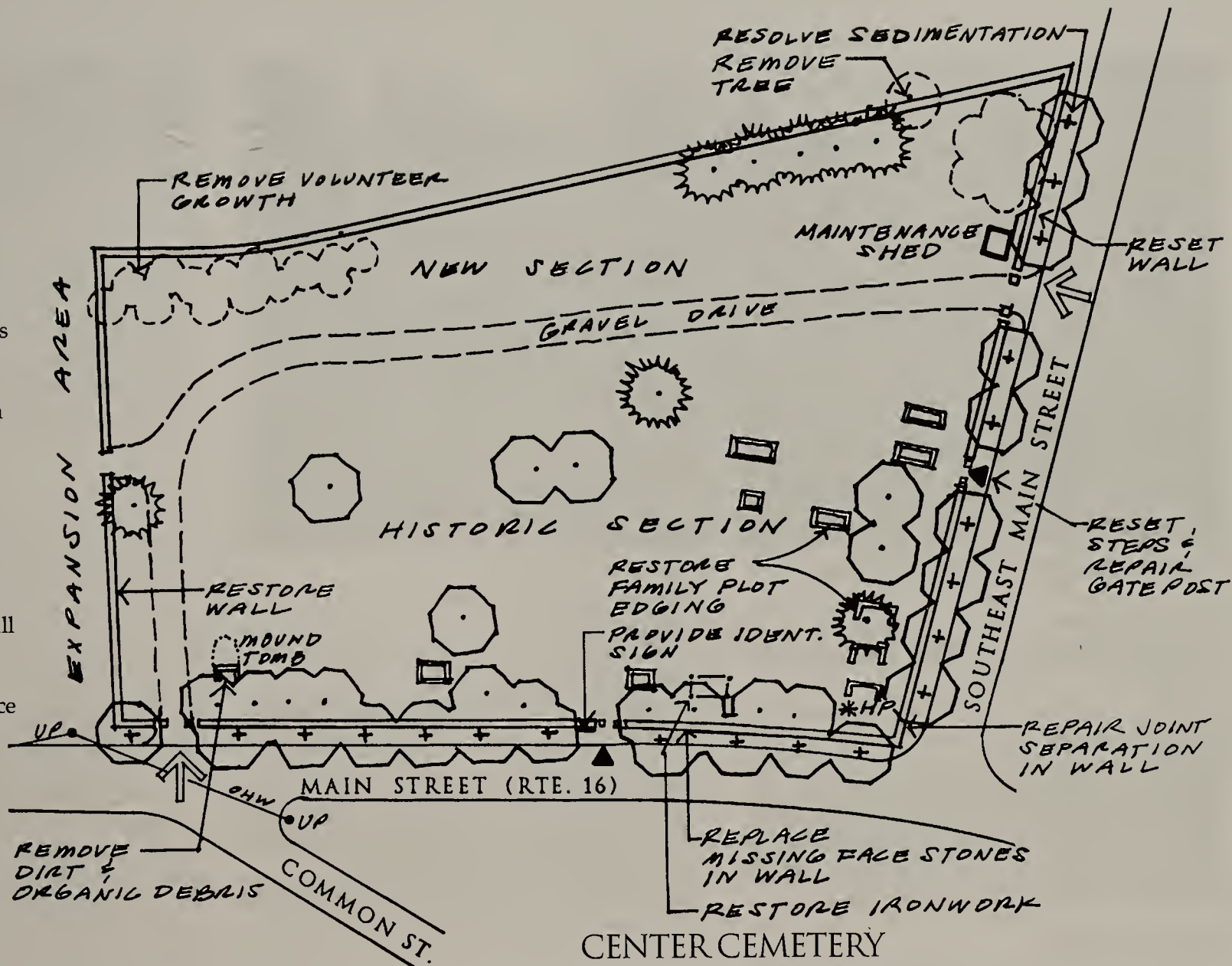
There are no amenities of this type inside the cemetery.

Recommendations

Do not provide these amenities.

LEGEND

-  Existing Deciduous Tree
-  Existing Evergreen Tree
-  New Tree
-  Remove Volunteer Growth
-  Existing Stone Wall
-  Vehicular/ Pedestrian Entrance
-  UP Utility Pole
-  *HP High Point



CENTER CEMETERY PRESERVATION PLAN DOUGLAS, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

NORTH

NOVEMBER 1999
1" = 100'

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

UTILITIES

Drainage

Issues

No drainage structures were found inside the cemetery, although one should be found at the receiving tomb. In general, the site drains on the surface and flows from the Main Street side to the rear or northwest side. Surface drainage from Southeast Main Street is impacting the southeast corner with sediment deposits outside the perimeter wall.

Recommendations

Resolve the sedimentation issues related to Southeast Main Street.

Water Supply

Issues

Self draining water spigots are distributed with sufficient frequency throughout the site.

Recommendations

No changes are recommended related to water supply.

Lighting

Issues

There is no electric supply to the site. Perimeter lights on adjacent street related utility poles provide some light. Overhead wires adjacent to the southwest corner of the cemetery extend along the front of the expansion area.

Recommendations

Do not provide light fixtures in the cemetery. Consider relocating the overhead wires to the opposite side of Main Street.

PRIORITIES

High Priority

- Stone conservation including resetting and repair of markers and pin replacement in marble markers that are visibly cracked or spalled
- Vegetative pruning and removals including volunteer growth
- Repair of perimeter walls
- Debris removal at the receiving tomb
- Iron work restoration
- Identification sign placement.

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base
- Zinc marker repair
- Resetting steps at Southeast Main Street pedestrian entrance
- Family plot edging repair
- Tree planting
- Lawn repairs
- Fertilization of trees
- Resolution of sedimentation along Southeast Main Street.

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Informational and interpretive sign placement.

Center Cemetery is part of the town's Common Preservation Project which includes building a bandstand, erecting lampposts and benches, locating electrical, phone and cable wires below grade, restoration of the Soldiers' Monument and repair of two cannons. Because the burial ground and school were originally situated on the town common it would be prudent to conduct archaeological evaluations of all proposed impact areas prior to any construction or restoration efforts. Research should be directed toward locating the site of the original school, and determining whether unmarked graves remain in the town common.

National Register Status: Listed as part of the New
Marlborough Center
Historic District, 1982
Current Management: Cemetery Commission
Status: Active
Condition: Fair



View south to older part of cemetery

NEW MARLBOROUGH CEMETERY NEW MARLBOROUGH, 1755

This charming 4.7 acre site was the first cemetery in the town and it was the location where early settlers were buried. The oldest part of the cemetery is on two hillocks at the south end of the site. While there is anecdotal evidence that the hillocks used to be an Indian burial ground, no archaeological investigations have been performed to date to confirm or deny this potential. There is also speculation that the site was selected for a burial ground because it had steep side slopes and was thus unsuitable for farming.

The cemetery is located just outside the village center adjacent to the gravel single lane Branch Road [Nillingdon Road]. The north edge of the cemetery is lined with old Sugar Maples that separate the cemetery from the road. A double row of Sugar Maples leads part way into the cemetery, down a gentle slope. At the end of the short drive are two hillocks covered with mature White Pines and Sugar Maples. The drive bisects the hillocks and also goes around the perimeter of each.

The cemetery can be seen as divided into three distinct parts. The newer active portion, established c 1850, is on the north side closest to the public way. The central area is generally undeveloped for grave sites because it is too wet. There are numerous small, partially buried boulders on the surface in this area. The oldest part is at the south end where the two hillocks are located.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The cemetery may once have been ringed by regularly spaced Sugar Maples. Some remnants of this planting remains. Deciduous woods frame 3 sides of the property. It is probable that the land on the edges was formerly farmed.

The northern portion of the cemetery is generally open with a row of Sugar Maples lining the public way and a double row bisecting the site along the entrance drive. This simple treatment has been supplemented with some new plantings that do not have an appropriate supporting character.

The southern portion of the property, with the two hillocks, is generally more vegetated. While it has primarily White Pine, there are also 2 large Red Oaks and a large Hemlock. Overall the vegetation is 73% deciduous [68% Sugar Maple] and 27% evergreen [26% White Pine].

Recommendations

Maintain and reinforce the general landscape character with a distinct difference between the northern and southern portions of the property. Reduce the quantity of trees on the southern hillocks such that it is more in character with the age of that portion of the cemetery. Reestablish the perimeter line of Sugar Maples.

Planting

Issues

There are 89 trees inside the cemetery including 61 Sugar Maple [*Acer saccharum*], 23 White Pine [*Pinus strobus*], 2 Red Oak [*Quercus rubra*], 1 Eastern Hemlock [*Tsuga canadensis*], a recently planted 10 foot tall Purpleleaf Beech [*Fagus sylvatica purpurea*] and a Cherry [*Prunus* species] clump.

Most are large, weathered and beyond maturity. Lightning has struck many Pines over the years and caused decay in their main stems. Dead and broken branches and tops of trees were noted in the Pines and Sugar Maples. There were no indications of any pest problems. There are 17 trees and one tall trunk recommended for removal. The evaluation found 5 high risk, 7 medium risk and 6 low risk trees.

Tree work is currently performed by outside contractors when a problem is noted. Numerous stumps are evident on the north side and between the two hillocks.

Recommendations

The small Purpleleaf Beech should be moved to higher ground where excessive ground moisture will not present a problem for future development. A location by itself in the northeast quadrant where it would not interfere with grave sites would be more appropriate. The low branching character and shallow roots could disrupt grave markers. If it is relocated, it must remain in the northern portion of the property where it would be more compatible with style and age of cemetery.

The Cherry clump is not healthy and should be removed.

Recommendations for support systems to help prolong the life of a tree that is still in fairly good condition generally fall into the highest priority, depending on location. There is a general consensus that steel support cables do not attract lightning to trees. Lightning damage can, however, be intense because of the fracturing of wood around eyebolts when the electrical force comes in contact with the bolt and cable. Many of the trees have main multistem branches with either decay or natural structural defects, which may fail under adverse environmental conditions. Support cables have proven to be of help in preventing large branch loss, enabling the tree to regenerate new growth and maintain its vigor.

Soil samples are always recommended before decisions are made to apply fertilizer to any plants in the landscape to avoid spending needless funds and excessive use of chemical fertilizers or lime. It is recommended that this be done and lime and fertilizer be applied to all the trees as recommended by the soil analysis. Sugar Maples are high nitrogen feeders. They should be given fertilizer first.

Root collars or root flares are often damaged by lawn mowers. Naturally occurring girdling roots can slowly cause decline in a tree. It is simple to check them and do repairs as necessary. All soil and mulch should be kept at least 1' from tree root collars so as not to encourage circling roots or decay organisms that can damage root collars. This is also important when installing new trees.

A number of the trees should be reevaluated in 2 to 3 years for health and structural condition. If a violent wind, lightning or ice storm occurs in the meantime, those trees should be inspected shortly afterwards. People should not be allowed to enter this cemetery during high winds or storms because of the age and condition of the trees. There is no such thing as a perfectly safe tree. To reduce the possibility of an accident, post signs or gate the cemetery to prevent visitation during storms.

The stumps on the hillocks should be cut flush with the ground so as not to distract from the appearance of the cemetery.

Volunteer Growth

Issues

This type of growth has been well controlled and is minimal.

Recommendations

Continue to control volunteer growth.

Lawns

Issues

Lawns are in fair to poor condition with many small bare spots, moss and herbaceous weeds. Some slumping is evident on the steep south facing slopes. There are also mounds or small hummocks on these slopes that could be early burials.



View west along Nillingdon Road

Some erosion is also evident in relation to individual grave markers set parallel to steep slopes in the southern portion of the cemetery. Water flow has caused a build up of soils on the uphill sides of the grave markers and an erosion of soils on the downhill sides. This ultimately causes the grave markers to act as miniature retaining walls. Subject to the earth forces above, the markers ultimately lean downhill which creates a long term hazard for the resource. Areas of soil are exposed because a substantial vegetative ground cover has not been established due to the dense shade in this area.

Maintenance is provided by 2 teenagers who are hired by the town each summer to mow all of the town cemeteries. They generally attend to each site every week.

Recommendations

Lawn areas should be top dressed, have the applicable soil amendments added and then reseeded.

Remove earth sediment on the uphill side of individual grave markers and place it in the depression on the downhill side. Restore disturbed lawn areas. Monitor annually and repair disturbed earth as needed.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Pedestrian access is available from Nillingdon Road via the existing entrance drive. No other walks have been provided. The majority of the site has a gradient of about 8.7% making universal access throughout the site not feasible. Disabled visitors can enter the site with vehicular support.

Recommendations

No changes are recommended.

Vehicular Access

Issues

There is a single point of vehicular access from Nillingdon Road via the existing entrance drive.

Recommendations

No changes are recommended.

Security

Issues

No security measures are in place.

Recommendations

Security does not appear to be an issue at this time and no changes are recommended.

VANDALISM

Issues

No vandalism is apparent or has been reported, although one broken bottle was found on top of the west hill. Toppled and broken stones generally appear to have been from natural causes.

Recommendations

Vandalism is not a significant problem and no changes are recommended.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

The circulation system consists of a single, one lane, gravel and sometimes lawn drive. It is generally 8' wide. When it reaches the hillocks it branches into a perimeter drive and a central drive that bisects the hillocks.

Recommendations

Maintain the existing circulation system.

Pavement Materials

Issues

Most of the drive is gravel. Portions of the south end of the drive have reverted to lawn. All other surfaces are lawn. Snow is not plowed.

An area of erosion was observed at the south end of the central drive. Exposed tree roots were found in drive areas at the south end of the site.

Recommendations

Resurface the gravel drives. Consider making the drive that bisects the two hillocks lawn to discourage vehicular traffic in this sensitive area.

GRAVE MARKERS

Headstones and Footstones

Issues

Generally, the styles of the grave markers in the cemetery vary according to the section in which they are located. In the older southern portion the markers are predominantly tablets, a mix of slate and marble. Many are made of a rather coarse grained marble. Since New Marlborough is not far from the Lee marble quarry and many of the markers date from the early 19th century when the quarry was especially active, it is reasonable to expect that some of these tablets are of Lee marble.

The 1755 marble marker for Samuel Allin at the top of the east hillock was the earliest found. An unusual 1760 early marble marker for Eli Freeman can be found on the west side of the east hillock. All of the stones face west, regardless of their position on the slope, ie, whether they face away from or into the steep slope. There are a few foot stones, some with initials to identify them with the proper head stone. One bronze pin repair was found on a delaminating marble marker. It was a good repair in good condition.

In the more recent northern portion of the cemetery the markers are more widely spaced and not set in regular rows. They are of various designs, primarily marble and granite with one 1864 zinc marker.

A study done some years ago included a count of markers with different types of damage. At that time 26% of 621 stones were leaning, toppled or broken. Those tilted at both less and more than a 45° angle numbered 103. Another 45 were observed to be toppled, lying flat on the ground. There were 38 broken and 13 "loose" markers. Repair needs were identified for 9 "monuments," presumably the obelisks, columns or stones with two or more discrete sections of which one was a tall vertical. These figures appear to remain a reasonably accurate accounting of that type of damage.

Local Historic Society volunteers plan a new inventory of stones needing repair. There is an inventory of the inscriptions that is about 25 years old, without locations for the stones. A plan has been started that has stone locations.

The slower and more insidious type of damage that is caused by soiling of all types is more universal in the cemetery. Virtually every marker has some sort of botanical growth on at least some part of its surface. Moss grows at the bases of many markers. Red and yellow lichens, as well as the more common green-gray kind, grow on both the tablets and on the more complex shaped markers. Weathered limestone or coarse grained marble have black soiling from ordinary air pollution. Microscopic particles of carbon have been deposited and partly absorbed by the grainy stones. The botanical soiling is not only aesthetically distracting, it also hastens stone decay. The mycelia, root like structures, penetrate the stone and break down whatever may be serving as a binder. The surface growth also prevents moisture from evaporating quickly, thus making the stones more susceptible to the crumbling caused when moisture freezes, expands, exerting force on the stone, then thaws and contracts, leaving a loose rough surface on the stone.

A condition that can lead to tilting or toppling is the receding soil grade at the base of markers. When soil has begun to wash away, the washout will occur at an ever greater rate until the problem is solved. The one zinc marker in the cemetery has some of its below grade base exposed. If that marker tilts, the seams of the zinc may open, leading to damage. Markers which have columns or obelisks, such as the 1862 Harmon marker, lose their structural integrity when soil around the base washes out.

The small flag holders that mark the burials of military men are sometimes overlooked. They should not be, as they are an important type of memorial device. They are often in poor condition, however, as the earlier ones were made of cast iron, iron and bronze, or other metals that can corrode due to galvanic action. In several spots, small flags were simply stuck in the ground by grave markers, with no metal holder identifying the war in which the deceased fought. In the cemetery are markers identifying soldiers of the Grand Army of the Republic (Civil War), World Wars I and II, the Korean War, and possibly the American Revolution.

Fallen markers are being obscured by a covering of thick pine needles, or a thin layer of soil and grass or moss. Since several tablets are lying flat with soil encroaching over the edges, it is reasonable to guess that there may be more that are now completely covered.

Recommendations

Several types of repair and conservation share top priority: resetting stones that are fallen or tilted; reassembling stones which are broken or separated from their bases; and removing the botanical materials. When selecting the stones to be conserved, priority should be given to markers that have inscriptions that are still legible. Indecipherable inscriptions cannot be restored. So, too, when selecting stones to repair and reset, those that still have readable history should be done first.

Monuments

Issues

There are numerous [approximately 22] obelisks of various sizes. Most of them are marble and at least half of them are on the west hillock. Many have exposed foundations. The Peet obelisk has a twisted top, one is leaning and another is toppled in the northeast corner.

Recommendations

Provide earth fill at the exposed foundations of monuments. Repair the other monuments as necessary.

STRUCTURAL ELEMENTS

Edging of Family Plots

Issues

While none of the plots have stone edging, some have marble posts. On the east side of the west hillock, the Stevens plots have 7 marble posts. Many of them appear to be missing. Three have small holes for small diameter rails or chains. Four marble corner posts mark the 1852 Maudru plot on the south end of the site. One post is leaning and two have broken tops.

Recommendations

In a few locations there are small stones which may have marked the corners of family burial plots. These should be identified and reinstated, where possible.

FENCES AND GATES

Perimeter Fences and Gates

Issues

While a fence was reportedly required as part of the deed conveyance, no fences or gates were present. There is anecdotal evidence of a former light weight iron or fabric fence and gate during the 1920s. A cut off, tubular metal pipe about 2" diameter was found near the entrance drive. It may have been a fence or gate post.

Remnants of a woven wire fence are evident on the east and west sides of the cemetery outside the tree line. It is assumed that the town installed this fence at some point to provide separation from adjacent farm land.

Recommendations

Provide a fence as required by the deed of conveyance, based upon documentary evidence of the style and location of the original fence.

With the current adjacent land uses, there appears to be no need to re-establish the perimeter fence line. However if these land uses should change, consideration should be given to providing a fence along these edges.

Interior Fences and Gates at Family Plots

Issues

While there are no fences and gates at any of the family plots, there were single rails at the Maudru plot that are missing.

Recommendations

If documentary evidence can be found concerning the appearance of these rails, consideration should be given to replacing them.

SITE AMENITIES

Signs

Issues

No identification, regulatory or informational signs were found.

Recommendations

Provide each of these sign types, starting with and identification sign that notes the age and historic designation of the cemetery.

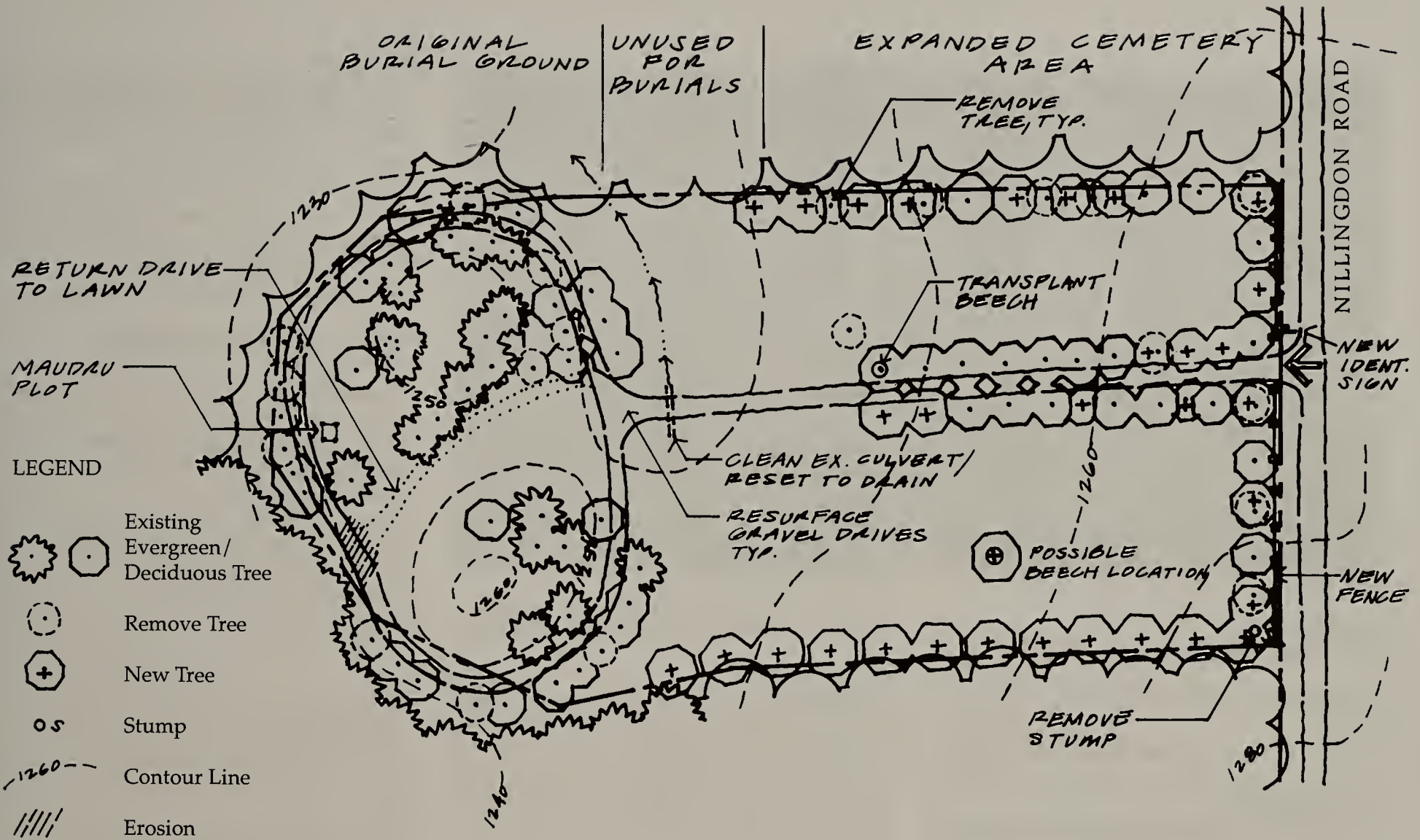
Trash Receptacles and Seating

Issues

One contemporary single seat wood bench is associated with a grave site. No other amenities of this type exist.

Recommendations

Do not provide additional benches or trash receptacles.



NEW MARLBOROUGH CEMETERY PRESERVATION PLAN

NEW MARLBOROUGH, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
SUZANNE SPENCER-WOOD, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

NORTH
FEBRUARY 2001
1" = 100'

UTILITIES

Drainage

Issues

The cemetery drains on the surface to the southwest. The drive is crossed by a shallow swale with a corrugated metal pipe culvert in approximately the center of the cemetery. The culvert may be filled in and partially blocked as the adjacent low area ponds when it rains.

Recommendations

The culvert should be cleaned and/or reset at a lower elevation to insure drainage. The culvert pipe should ideally be replaced with more appropriate materials and/or the ends should be concealed from view.

Water Supply

Issues

No source of water was found inside the cemetery.

Recommendations

Do not add a source of water at this time.

Lighting

Issues

No light fixtures were found inside the cemetery.

Recommendations

Do not provide light fixtures inside the cemetery.

PRIORITIES

High Priority

- Remove trees with large cavities, leaning into cemetery, drives, Nillingdon Road or grave markers.
- Replace trees along drives.
- Relocate Beech.
- Cut tree stumps flush.
- Earth fill at exposed monument foundations.
- Inventory of markers with locations.
- Restore grave markers that present public safety hazards or are structurally unsound.
- Replace dowels in multipart stones that are visibly cracked or spalled.
- Conserve historically significant marble markers in danger of becoming illegible.
- Reset and repair slate markers.
- Repair broken stones if inscriptions are legible and at least 75% of the stone is available.
- Resurface gravel entry drive.
- Provide drainage improvements.
- Restore lawns.
- Provide identification and regulatory signs.

Medium Priority

- Remove trees with large cavities, leaning into the woods, away from drives and grave markers, and not located in the front area where vehicles may drive.
- Replace dowels in multipart stones with visible metal stains at junction between stones.
- Clean legible markers.

Low Priority

- Prune trees with a small amount of dead wood and branches, and trees protected from the winds in close to the edge or other trees.
- Replace trees along perimeter.
- Reset markers that have shifted or are leaning.
- Reevaluate and conserve marble markers currently in satisfactory condition as necessary.
- Fence along Nillingdon Road.
- Informational and interpretive signs.

PRIORITIZED COST ESTIMATES

High Priority

Tree removals	\$6,000
Stump cutting	2,000
Tree pruning and support systems	9,000
Tree fertilization	3,000
Tree replacements	9,000
Beech relocation	1,000
Earth fill at monument foundations	1,000
Resurface gravel entry drive	10,000
Drainage improvements	2,000
Lawn restoration	10,000
Signs	<u>5,000</u>
	58,000

Medium

Tree removals	8,000
Tree pruning and support systems	<u>1,000</u>
	9,000

Low

Tree removals	3,000
Tree pruning and support systems	7,000
Tree replacements	11,000
Fence along road	30,000
Signs	<u>5,000</u>
	56,000

Costs associated with grave marker work has not been included. Refer to the General Recommendations section for approximate costs of various types of repair.

National Register Status: Not Inventoried
Current Management: Friends Group
Status: Inactive
Condition: Poor



General view from west

POPE CEMETERY

PEABODY, 1755

Pope Cemetery, also known as Oak Hill Cemetery, is one of 41 historic burial grounds in the city. The 0.74 acre wooded site has a rectangular shape and is moderately sloping from a high point in the northeast corner to the southwest corner near the entrance with an average gradient of about 10%. Development has enveloped the site making it difficult to find and access. All but legally landlocked, three sides of the cemetery are above and bordered by the leveled site of Mobile Home Estates. The entrance faces historic Popes Lane on the west with undeveloped land beyond. Once an important local road, Popes Lane is now an unused paper street. The cemetery represents an immense preservation challenge to the town with major issues of vegetation, erosion, security and stone conservation.

No longer an active cemetery, Pope Cemetery was established in 1755, created from land donated by Jasper Pope when an earlier Pope family cemetery in West Peabody was disturbed during construction of the Boston and Maine Railroad. It contains the remains of at least one Revolutionary War veteran, Nathaniel Pope. The Pope family is represented with greatest number of markers, and they mark both ends of the range of death dates [1763-1887]. The earliest commemorates Nathaniel Pope's family and was erected after 1779. The earliest other family name is Gilbert, dated 1780. Two or three rows of crude fieldstone markers reveal that the cemetery was probably also used by economically modest community families. A large slate marker is clearly identified as the work of stone carver J. Park of Groton.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

Left untended, the cemetery has naturalized and become wooded. Hazardous and dead trees are scattered throughout. Large trees with old basal wounds outside the cemetery walls on Popes Lane have extensive decay in the main stem, presenting a significant hazard to neighboring houses and grave markers. Many of the individual trees are not indicated on the plan and most should be removed because they interfere with grave makers, stone walls and each other.

There is a steep, severely eroded bank along about 2/3 of the north side starting at the northeast corner. It is possible that burial markers may have tumbled downslope. While there is no visible indication of grave shafts, private property abuts most of the perimeter and the outside edges of the cemetery was thus inaccessible during the site examination.

Recommendations

Numerous mature oak and hickory throughout the cemetery should be removed to prevent further damage from falling limbs and root growth. Approximately 80% of the trees recommended to be removed are 2 to 8" in diameter. The remainder are generally 9 to 12". A couple of large trees have had large branch failure and they should be removed. This does not include trees to be kept within 10' of the north edge to help prevent erosion. Thinning and removals will help preserve the remaining trees with less competition and allow the growth of grass if desired. Trees should be cut by hand or by equipment located off site. All trees and shrubs should be removed to ground level only, and roots treated to prevent regrowth.

Those to remain include 11 Black Oak, 1 Shagbark Hickory and 4 White Pine. They are in fairly good condition, of different age, growing away from grave markers and spaced throughout the cemetery. Two trees will need support cables to help prevent major branch loss. All trees should be pruned of dead branches 2" in diameter and larger to help prevent potential personal injury and property damage as well as improving health and appearance.

From an archaeological perspective, the most pressing need is stabilization of the north and south edges from further erosion. Prior to stabilization efforts, archaeologists should conduct a pedestrian survey along the entire perimeter slope to determine whether grave shafts are visible and conduct a search for burial markers [formal, carved stones or more subtly carved or modified field stones] in the talus at the toe of the slope. Permission from property abutters will be necessary prior to the survey. Archaeological testing upslope along the margins of the cemetery is also essential prior to restoration and repair of walls. This testing will confirm if and how many graves are located on the terrace above the slope. Archaeologists should also excavate one or two test trenches abutting the rough field stones southeast of the Deacon James Putnam marker to confirm the association of grave shafts with the field stones. Finally, archaeologists should excavate test trenches in the open, northern portion of the cemetery to determine whether this section of the cemetery was ever used for interments. These tasks have been enumerated in order of severity so that preservation and documentation efforts can be prioritized in accordance with a restoration budget.

Planting

Issues

Other than a few bulbs and some Common Periwinkle, there is little evidence of purposefully planted material.

Recommendations

A screen planting of native material may be desirable at the edges to obscure views of the adjacent trailer park. Additional planting may also be desirable at the entrance if development occurs on the opposite side of Popes Lane.

Volunteer Growth

Issues

In this wooded area, most or all of the vegetation is considered volunteer growth.

Recommendations

Shrubs and other larger volunteer growth as previously noted should be cut to ground level and the roots should be treated to prevent regrowth.

Lawns

Issues

The ground surface is covered with a thin layer of forest duff.

Recommendations

Once tree removals occur there will be sufficient light for lower level growth. Lawn or ground cover is recommended to protect against erosion. If this is not provided for, other taller understory material will naturally develop. Care should be taken with renovations for either ground cover or grass particularly around trees to remain because the tree roots are so close to the surface. Filling holes of decaying stumps and sunken graves, and cleaning the area of tree litter will facilitate the planting of grass or ground cover.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Access to the site occurs on roads through Mobile Home Estates where no sidewalks are evident. One road dead ends at the north on Popes Lane at which point there is a long, very steep grade down to the entrance along the road right of way. New steps would be required to make this a suitable pedestrian access route. Another road dead ends at the south at which point there is a relatively level unpaved path through private property to the Popes Lane entrance. There is limited parking potential in both dead end street locations. Gradients are too steep for universal access into the site from the entrance.

Recommendations

Consideration should be given to working with whoever develops the parcel on the west side of Popes Lane to include an access drive from the south and public parking near the cemetery entrance. Because gradients are too steep inside the cemetery, universal access into the site is not recommended.

Vehicular Access

Issues

There is potential vehicular access across private property from the south to the entrance along an unpaved path, formerly Popes Lane.

Recommendations

Consideration should be given to improving this route as recommended above.

Security

Issues

Located in a relatively concealed area and with open access on all sides, there is little security afforded to the site. While it is sited above most of the neighbors, some of them provide a watchful presence preventing destructive activities. After years of neglect, a letter in 1992 voiced concern about the deplorable condition of the site. Conditions have improved inside the cemetery since then with the removal of trash and debris, but conditions outside on the west side of the cemetery have gotten worse.

Another aspect of concern about security relates to the fact that there is little definition of the property line. Stone walls along the south and west sides serve as apparent boundaries. There are no such features to the north or east. Encroachment has apparently occurred with a wood shed and stockade fence intruding onto the property at the northwest corner.

Recommendations

A boundary survey is recommended as well as the installation of some form of boundary definition along the north and east sides.

VANDALISM

Issues

Most of the vandalism on this site occurred in the past. It was primarily related to the dumping of trash and a few broken and toppled markers. Considerable refuse has been dumped outside the cemetery opposite the entrance, including concrete pipes, cinder blocks, wood, particle board, wood, glass and plastic.

Recommendations

Remove trash and debris from the site and the immediate surrounding area to present the appearance that this important site is being cared for.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

There are no formal circulation systems inside the cemetery. A number of informal and ill defined earth paths crisscross the property.

Recommendations

A pathway should be re-established from the entrance to the grave sites. Do not add a road system.

Roads

Issues

There are no roads inside the cemetery.

Recommendations

No roads should be provided inside the cemetery.

Pavement Materials

Issues

There are no paved surfaces on the site.

Recommendations

Surface materials should remain as is until visitation reaches the point where it is not longer practical to maintain this surface. At that time a paved path system should be considered.

GRAVE MARKERS

Headstones and Footstones

Issues

An inventory taken in 1901 documented 46 stones standing at the turn of the century. Today there are a total of about 37 headstones in the cemetery, not including footstones and most here are accompanied with footstones. About half are slate with a mixture of motifs. One of the slate markers is unusually thick at 4 to 6". About a third are marble and the rest are granite. Two of the polished granite markers are dated 1830 which is surprising for stones of that material. There are no table tombs or monuments. Most of the markers are concentrated in an upslope area in the eastern third of the property, mostly on the south side with a southern orientation. There are 4 more along the south wall further east, and another 2 centrally located at the far east end. Marked by the tops of rubble stones set in relatively straight lines, there is an area of probable graves east of the main area. There is no visible evidence of other burials downslope in the area adjacent to the entrance.

Given the surroundings of the site, it is surprising to find so many markers standing and intact when it has been reported that none have been reset to date. A number should, however, be reset because they are leaning significantly or have toppled. This includes 8 slate, 13 marble and 7 granite markers including footstones. There are also 2 broken slate and 6 broken marble markers.

Recommendations

Reset leaning and toppled grave markers and repair broken markers.

STRUCTURAL ELEMENTS

Perimeter Walls








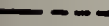

Issues

There is a stone retaining wall on the Popes Lane side, a freestanding stone wall on the south side and a concrete retaining wall along or near the east edge and the eastern third of the south edge.

The Popes Lane or west wall is a rubble stone wall that curves inward at the entrance and has a split and roughly cut granite cap extending from the entrance. It does not extend all the way to the north edge. The wall has a maximum height of 48" with 42" exposed at the entrance where it gently curves in and less at the ends. There is also a lower stone retaining wall extending into the site beyond the entrance. The cap is 10" high and 12 to 14" wide. South of the entrance, a 10' section of wall has collapsed below the cap. North of the entrance another 10' section has collapsed including the cap. North of where the cap ends is another section of collapsed wall.

The south wall is composed of low piled rubble stone wall. About a 40' long section is missing above the adjacent concrete wall. It appears to have been lost with construction of the concrete wall. There is also extensive erosion and undercutting of the stone wall above much of the adjacent concrete wall. The latter has a dangerous and precipitous drop along the east edge without protective measures.

LEGEND

-  Existing Deciduous Tree
-  Existing Evergreen Tree
-  Remove Existing Tree
-  Remove Existing Vegetation
-  New Tree
-  Repair Existing Stone Wall
-  Pedestrian & Vehicular Entrance
-  Property Line
-  Repair Erosion



NORTH

NOVEMBER 1999

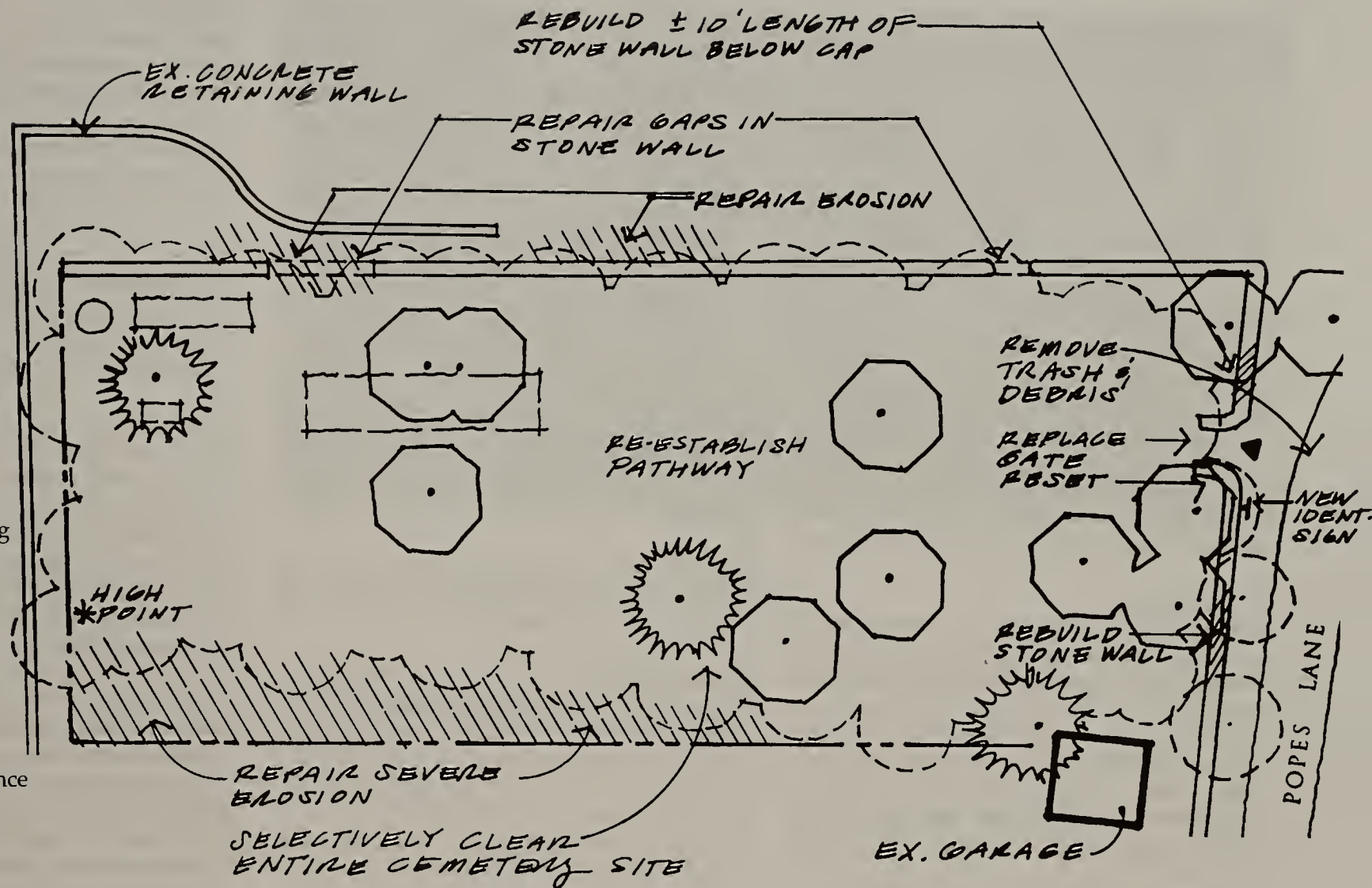
1" = 40'

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

POPE CEMETERY PRESERVATION PLAN PEABODY, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE



Recommendations

Repair the west wall by rebuilding about 10 linear feet of the wall below the cap south of the entrance and resetting one cap length and rebuilding the wall below the cap north of the entrance. Rebuild the wall north of where the cap ends. Work with the owner of the adjacent trailer park to repair damage to the south wall and erosion conditions before more of the wall is lost.

FENCES AND GATES

Wood Fences and Gates

Issues

Remnants of a former wood gate at the Pope Lane entrance include two 7" square wood post supports with iron bottom hinge pins in each post. The supports are 36" and 41" high with 9'-9" clearance between the posts. The wood is has advanced decay and the entrance gate is missing.

Recommendations

Replace the wood gates in a historically appropriate manner based upon historic photographs or sketches of the entrance, if available.

SITE AMENITIES

Issues

There are no site amenities like signs, trash receptacles or seating.

Recommendations

Add directional signs, identification, informational and interpretive signs. Do not add trash receptacles or seating.

UTILITIES

Drainage

Issues

The site drains on the surface and generally flows toward the south. No drainage structures were found inside the cemetery.

Recommendations

No changes are recommended at this time.

Water Supply

Issues

No source of water was found inside the cemetery.

Recommendations

Do not add a source of water at this time.

Lighting

Issues

There are no light fixtures on the site. Some ambient light may be available from the surrounding development.

Recommendations

Do not add light fixtures inside the cemetery.

PRIORITIES

High Priority

- Perimeter survey and boundary marking
- Archaeological investigations
- Erosion repair
- Vegetative removals and pruning
- Trash and debris removal.
- Stone conservation including resetting and repair of slate markers and pin replacement in marbles that are visibly cracked or spalled
- Repair of structural items like the south and west perimeter walls
- Improved access
- Identification sign placement

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base
- Establishment of lawn or ground cover
- Fertilization of trees
- Improved parking facilities
- Re-establishment of pathways
- Directional signs

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Replacement of wood gate
- Informational and interpretive signs
- Additional screen planting

National Register Status: *Inventoried,
Recommended Eligible*
Current Management: *Public Works Dept.*
Status: *Inactive*
Condition: *Fair*



Porter family plot

HIGH STREET CEMETERY

DANVERS, C. 1758

This rectangular 0.63 acre inactive cemetery is prominently located on High Street, Route 35, and serves as the only downtown green space. It is sited on the street between Friendly's parking lot to south [separated by a wood fence] and a long two story building to the north. A wide grass strip separates the site from Gould Street to west and residential development on the far side. A relatively flat site, gently sloping from north to south, it has one pronounced shallow mound near the center commemorating the death of Revolutionary War Veteran Edmund Putnam and some much shallower mounds in other locations.

Originally known as Porter's Burial Ground, it was first used for burial around 1758. Col. Jeremiah Page sold the plot in 1805 to Israel Hutchinson, Jr., Thomas Putnam and Caleb Oakes "for ten cents." They were to "forever permit the inhabitants of that part of Danvers called the Neck and all other persons who have been so accustomed, to occupy the same land as a Burying Ground, forever . . . keeping always the same ground enclosed with a decent fence not less than five feet high at their own charge."

The town purchased the land in 1870 and two years later voted to place a suitable fence around the burial ground and close it for burial purposes. Today High Street Cemetery derives its principal significance as the burial place for town military veterans and contains the graves of participants of three wars: Revolutionary War [14], Civil War [3] and Spanish-American War [5]. Four of the Revolutionary War veterans were moved to this site by the town from small outlying plot cemeteries in 1928-29.

The archaeological evidence from the Danvers cemetery is well suited to interpretations of episodic repair and renewal of archaeological resources. Visible evidence of changes to the wall and entranceway could compliment documentary references of modification and repair available in the Town Records. Because of its association with military veterans, the cemetery also provides an opportunity to search military records for biographical information on the individuals buried in the cemetery. The large Masonic marker symbolizes the frequent association between Freemasonry and the military, which may stimulate research for area students. Furthermore, clearly visible stylistic changes in burial markers reveals changing attitudes toward death and dying. As it has in the past, the Danvers cemetery can be creatively used by area teachers to discuss patterns in local history, archaeology, religion and social ideology.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The cemetery has an open character with trees at the perimeter on three sides and a building edging the fourth side. Early postcards show large trees within the cemetery where none exist today. A large depression near the cannon in the southeast quadrant may be the result of a tree that was removed some time ago.

Recommendations

The current open landscape character is appropriate for a cemetery of this vintage.

Planting

Issues

There are 8 large deciduous trees inside the site and 12 more immediately outside the perimeter of the site. The former includes three 8-12" caliper Maples along the east side, a 24" DBH Maple along the south side and 4 young deciduous trees along the west side. Immediately outside the site are 8 small deciduous trees along the High Street verge, a 12" Locust and 24" Oak along the south side as well as 2 large Maples near the northwest corner. The one nearest the Porter family plot contains dead wood and represents a hazard to the historic resources of the cemetery. In addition there is a Yew and a volunteer Cherry in the northwest corner.

Recommendations

Where possible, new or replacement trees should be placed outside the cemetery walls. This is achievable on the east and west sides and may be so on the south side with the cooperation of the adjacent property owner. It is not possible on the north side. Large deciduous shade trees should be added along the north edge to screen the visual intrusiveness of the adjacent building in locations where they will not impact grave markers or walls. As a precautionary measure, an archaeologist should monitor all the planting procedures within the cemetery.

Principal impacts to the archaeological resources currently result from tree growth which is displacing stone walls and markers. The large Maple near the Porter family plot should be safety pruned and trees pushing into walls should be removed. Dead branches should be removed using equipment placed outside the cemetery.

Volunteer Growth

Issues

The stumps of former volunteer growth remain along the south, west and north edges. Two areas along the south edge are resprouting. Volunteer shrub growth has dislocated a large marble marker in the northwestern corner.

Recommendations

Continue to keep the site free of volunteer growth. Carefully cut the shrub roots and branches growing through the marble marker and maintain the stem at ground level.

Lawns

Issues

Lawn cover is thin with bare spots, moss and depressions. Maintenance by the Grounds division of DPW includes mowing, leaf raking and trash removal. It was reported that in recent times the site was not mowed for an entire year.

Recommendations

Repair lawn areas. Consider adding a source of water to improve the probability of successful lawn establishment.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

A concrete sidewalk along the High Street right of way provides pedestrian access to the single at grade entrance gate. The gate opening between 14" square by 5'-5" high granite posts is approximately 8'-5" with about an 8' clearance. Pedestrian openings at each side of the gate are approximately 37" wide with 9" square by 26" high granite posts centered in each opening. There are also 15" square by 4' high granite posts on the wall side of each opening. All of the posts have peaked tops.

While the site is relatively level, there are no paved paths inside the cemetery which limits universal access.

Recommendations

No changes are recommended at this time.

Vehicular Access

Issues

The gated entrance on High Street provides vehicular access for maintenance vehicles.

Recommendations

No changes are recommended.

Security

Issues

There is no security to the site because it is enclosed with low perimeter walls and the gate is fixed open.

Recommendations

The prominent, visible location of the cemetery diminishes the importance of additional security measures.

VANDALISM

Issues

This highly visible, exposed site exhibits little evidence of vandalism in recent times. There was some broken glass and a little trash. The few toppled or broken markers and shifted marble obelisk suggest that vandalism has occurred in the past.

Recommendations

Vandalism is not a significant problem and no changes are recommended at this time other than grave marker repair.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

There is no formal circulation system. Covered with grass throughout, the circulation system is informal. There is an apparent path west from the gate and markers are oriented perpendicular to this route in north-south lines, facing east and west.

Recommendations

Maintain the existing informal system.

Steps

Issues

One set of rough cut granite steps exists at the Porter family plot. With two 7 to 9" high by 12" wide treads and three steps up from the cemetery to the plot, the uneven treads need to be reset.

Recommendations

Reset the two treads.

Pavement Materials

Issues

All walking surfaces are grass with no defined circulation system.

Recommendations

Surface materials should remain grass until visitation reaches the point where it is not longer practical to maintain lawn. At that time a paved path system should be considered.

GRAVE MARKERS

Headstones and Footstones

Issues

The cemetery contains approximately 135 grave markers dated from 1758 to 1875, not including footstones. They are made up of about 1/3 slate and 2/3 marble with one granite marker. There are two horizontal brownstone bases [one with a horizontal marble marker] and at least one other brownstone base. Many of the slate markers are decorated with an urn or urn and willow motif. The 1792 Mrs. Lydia Green stone has a winged soul and the 1808 William Mercy stone has a cosmological sun symbol. The latter also has mower damage. Some of the slate stones may have been cut in the manner of the Haverhill carvers, the ornamental style in Essex County. The Porter family plot marble obelisk dates to 1836 and the enclosure contains space for about 8 adult graves. A marble marker in the center of the cemetery contains a well preserved Masonic emblem. There are no table tombs, monuments or mound tombs.

Many of the marble stones are suffering from atmospheric deterioration. Approximately 7 of the slate and 14 of the marble markers are leaning. Another 2 slate and 12 marble are lying flat or against other objects. Some of those lying flat are in danger of being covered with earth or turf and disappearing. A number of stones are broken including 2 slate and 12 marble markers. The short marble obelisk in the Porter family plot is set on a granite base. The obelisk is leaning and portions of it have shifted. The latter is probably the result of former vandalism.

Open space in the vicinity of the field artillery piece suggests that unmarked graves may be located in the southeastern corner. There is however no documentary evidence of a pauper's section. A large cemetery near the Town Poor House provided burial space for 19th century town poor.

Recommendations

The first priority is to reset significantly leaning and toppled stones. Reset those without a base or foundation with sufficient gravel for drainage and reduced frost heaving. Reset all toppled stones with bases on deeper and perhaps larger foundations beneath the base stones.

Most of the marble markers require immediate conservation. A professional stone conservator should prepare a program of work specifying appropriate methods and materials for use, and should be on hand to supervise any work done by local personnel.

Clean, repair and reset all markers that are fallen and/or broken. Another high priority is to remove the metal pins from two part stones and reset them with noncorroding anchors or dowel pins. Reset the obelisk including its base and anchor the obelisk to the base. Clean marble markers that are sound and upright for legibility. Removing surface biological growths will improve the appearance of the stones and slow down weathering.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

The stone wall on all four sides has a split and rough cut granite cap. It appears to have been constructed and repaired episodically with walls on the north and west built with large rounded fieldstones while the south wall was built from smaller fieldstones. The west or Gould Street wall contains several massive fieldstones, some of which are now out of alignment, particularly in the northwest corner.

The wall on the High Street edge varies from 18 to 32" high and has a 12" wide cap. The cap needs resetting in several areas. The south wall is wider and the cap is offset on the south edge. The west wall is also wider with the cap offset on the cemetery side. There is a large loose stone in the wall north of the Porter family plot which should be considered a public safety hazard.

The wall appears in reasonable shape although it has various heavy applications of mortar repairs with inappropriate color choices [i.e., too light and gray in color] and numerous patches utilizing bricks. Where mortar is present, most of it is loose.

A portion near the center of the west side has apparently been rebuilt near some stumps inside the wall. On the south side a large Maple is pushing on the inside of the wall near the east end. A stump near the center caused the wall to lean slightly to the south, and the west end is leaning significantly south at some sprouts of former volunteer growth. Tree growth at the northwestern corner has displaced the wall and massive tree roots intrude under the wall into the cemetery. Along the north wall a large fragment of poured cement and a marble plinth have been used to repair the wall beneath a downspout from the adjacent building. It was reported that wall maintenance and repairs are provided by the Grounds division of the DPW.

Recommendations

Reset the tops of three 20' long sections south of the entrance on High Street. Check the entire wall for loose stones and reset as required. Provide additional matching stones as necessary for structural soundness. Carefully remove all loose mortar and repoint with a high lime mortar. A wall with stones as irregular as this needs a very flexible mortar.

Interior Walls

Issues

The Porter family plot on the west edge of the site is raised about the elevation of the rest of the cemetery with a coursed Rockport granite wall. It has a 12" wide by 9" high rough cut granite cap that has slightly shifted in alignment.

Recommendations

Reset cap.

Edging of Family Plots

Issues

The Major Joseph Stearns plot has 8 granite bases. Immediately southwest, are two granite corner posts opposite a long granite slab that once served as the base for 3 markers. There are also granite corner posts at two other family plots.

Recommendations

No changes are recommended.

FENCES AND GATES

Cast Iron Fences and Gates

Issues

The High Street entrance has a wrought iron gate dated 1843. High Street and the adjacent public sidewalk was raised approximately 6" at the gate at some point, burying the bottom of the gate into the grade. Contact with the earth is causing the gate to rust. A semicircular depression at the entranceway indicates that a gate of a different type may have preceded the iron gate.

An iron fence once sat on top of the perimeter stone wall on all four sides of the cemetery as evidenced by drill holes and remnants of post bottoms in the tops of the walls. The fence is no longer there and the post stubs are rusting, which will eventually damage the wall. It is assumed that the fence dates to the same period as the iron gate.

Recommendations

Adjust the grade at the gate so that the gate swings freely while insuring proper drainage to avoid entrapment of water at the entrance. Clean rusting metal to bright metal and paint the gate and the post stubs.

Research photographic and other records to ascertain the character of the earlier iron fence that was once located on top of the stone wall. Consider replication of the fence.

Interior Fences and Gates at Family Plots

Issues

At one time there were iron fences around the Porter family plot and the Major Joseph Stearns plot. Both are missing.

Recommendations

Research photographic and other records to ascertain the character of the former iron fence and gate at the Porter family plot. Consider replication of the fence. Do not replace the fence and gate at the Stearns family plot for maintenance reasons.

Wood Fences

Issues

Nineteenth century postcards indicate a white painted wood picket fence in the background, possibly surrounding the cemetery rather than being mounted on top of the perimeter walls. There is no visual evidence to indicate that a picket fence was anchored to the existing stone walls.

Recommendations

Do not replace the wood picket fence.

SITE AMENITIES

Signs

Issues

The site does not have an identification sign or any informational or interpretive signs.

Recommendations

The recommendation to provide an appropriate identification sign at the High Street entrance has been acted upon by the Commission. Provide informational and interpretive signs, particularly at the Porter family plot and war veteran grave sites.

Trash Receptacles

Issues

A single green painted 55 gallon drum is located immediately inside the High Street entrance.

Recommendations

While functional and inexpensive, the character of the receptacle would be improved if it was smaller and had a stronger visual relationship with the wrought iron gate. It would also have been preferable to locate the receptacle outside the gate if the sidewalk were wider. Given the narrowness of the walk, the location is acceptable.

Seating







Issues

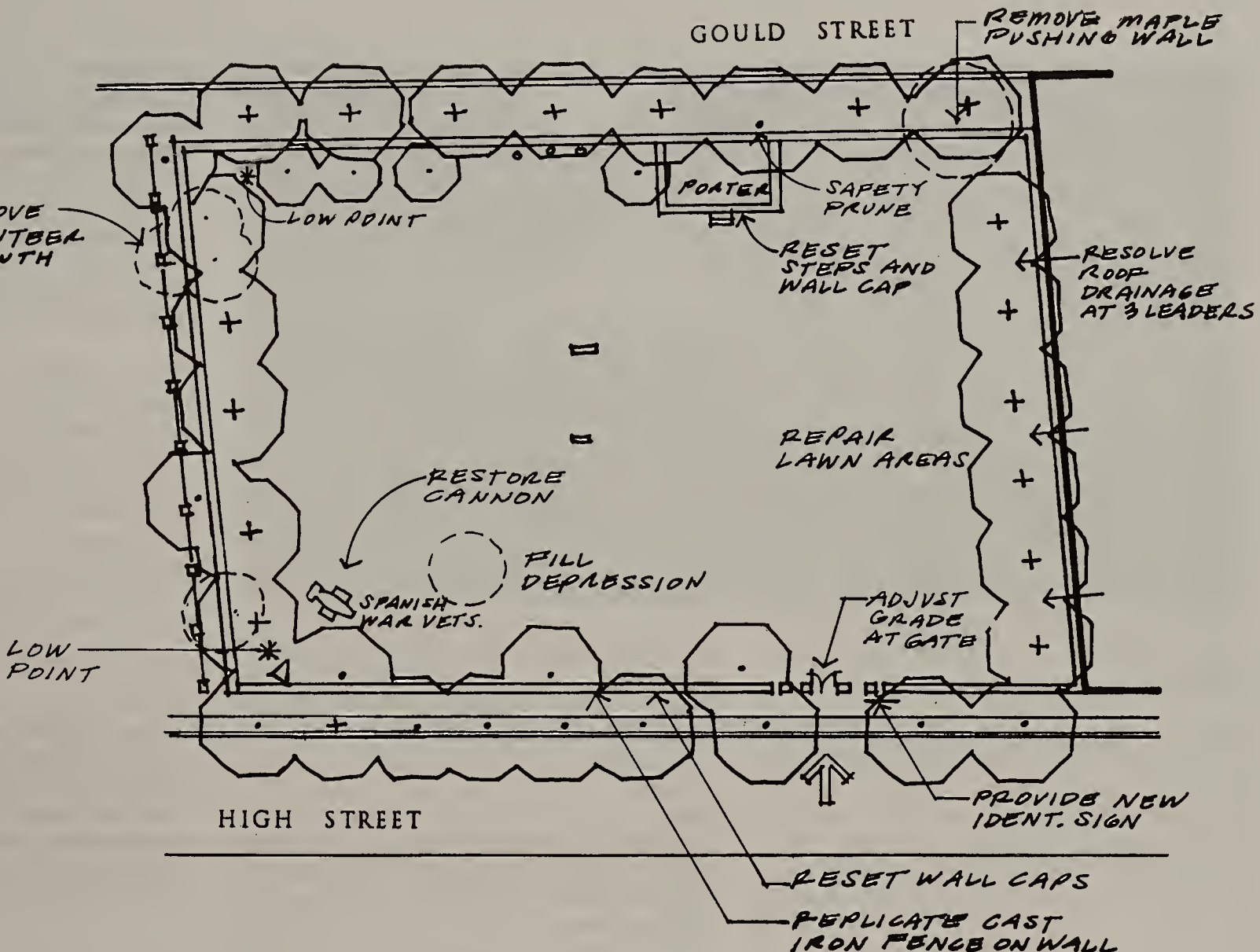
There are no benches inside the cemetery.

Recommendations

Do not provide benches.

LEGEND

-  Existing Tree
-  New Tree
-  Remove Existing Tree
-  Existing Stone Wall
-  Existing Wood Fence
-  Vehicular Entrance



HIGH STREET CEMETERY PRESERVATION PLAN DANVERS, MASSACHUSETTS

NORTH
NOVEMBER 1999
1" = 40'

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

Flagpoles

Issues

There are no flagpoles associated with the cemetery.

Recommendations

Do not provide a flagpole.

Cannon

Issues

The Spanish-American War Veterans memorial field artillery piece and carriage, a 1917 WWI piece, was donated to commemorate veterans. It provides a visual symbol of the cemetery's association with war veterans. Located in the southeast corner, the piece rests on a concrete base and is painted green with black wheels. The wood wheel spokes are deteriorated.

Recommendations

Clean and restore the field artillery piece and carriage. Paint colors should be historically appropriate.

UTILITIES

Drainage

Issues

The site drains on the surface from north to south with low points in the southwest and southeast corners. Four roof leaders empty onto the site from the adjacent building on the north side. No drain structures were found on site.

Recommendations

Work with the adjacent property owner to resolve drainage from roof leaders before it becomes a problem.

Water Supply

Issues

No source of water was found inside the cemetery.

Recommendations

Water is beneficial in times of drought and would help to reestablish lawns. Work with adjacent property owners to provide hose bibbs or provide a source of water in the public right of way outside cemetery walls.

Lighting

Issues

There are no light fixtures inside the site. Street lights on utility poles associated with High Street and Gould Street provide some illumination inside the site.

Recommendations

Do not provide light fixtures inside the cemetery.

PRIORITIES

High Priority

- Stone conservation including resetting and repair of markers and pin replacement in marble markers that are visibly cracked or spalled
- Vegetative pruning
- Gate repair
- Repair of perimeter walls
- Identification sign placement

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base
- Porter family plot wall cap and tread repair
- Field artillery piece and carriage restoration
- Tree planting
- Lawn repairs
- Fertilization of trees
- Consideration of adding water supply

Low Priority

- Stone conservation including markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Informational and interpretive signs
- Trash receptacle replacement
- Consideration of replicating the iron fence on top of the perimeter wall

National Register Status: Listed as part of
William Street
Historic District, also
Inventoried,
Recommended Eligible
Current Management: Public Works Dept.
Status: Inactive
Condition: Fair



General view from east

VILLAGE CEMETERY

TISBURY, C. 1770

The Village Cemetery is a rectangularly shaped site approximately one acre in size in the William Street Historic District at the corner of Center and Franklin Streets. It is a gently sloping site except where it sharply slopes down toward Center Street. The site has residential and civic buildings on two sides and is enclosed by a variety of wood fences and stone walls.

Although Tisbury was first settled in 1669, the origin of Old Village Cemetery, formerly known as Proprietors' Burying Ground, is not known. It has been in use since at least since 1770 as noted by the earliest grave marker found at a single plot for Abigail West Daggett, who died in 1770.

Purchasers of lots in the three 19th century developments in the District were guaranteed plots in and access to this cemetery. In 1803 burial plots were sold to 22 landowners and most of the gravestones date in early 1800s. The cemetery was extended in 1832 with the gift of Capt. William Daggett to Center Street. There is a Daggett plot near the corner of Center and Franklin Streets as well as the Town receiving tomb.

In addition to being the resting place of many notable Vineyard families, actress Katherine Cornell, a Tisbury resident who gave funds for the restoration of Town Hall is buried here as well as two of the three Liberty Pole heroines, Maria Allen Smith and Polly Daggett Hillman, local girls who raised a liberty pole in defiance of the British.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

Tree cover is mostly mature and approximately 75% evergreen and 25% deciduous which is somewhat unusual. The year round shade created by the evergreens is a contributing factor to the biological growth on many of the grave markers. The age of the large Spruce is a concern, particularly when recent wind damage caused broken lower limbs in two of them.

Recommendations

There is a general need for pruning the larger trees to remove dead wood and lighten crowns.

Planting

Issues

Tree cover is primarily evergreen with 17 Spruce and 13 Cedar. Deciduous trees include 4 Larch, 3 Cherry, 2 Oak, 1 Maple and 1 Holly. An Oak and Cherry stump are evident. Shrubs include one each of Azalea, Barberry, Hydrangea and Yew. There are also two Falsecypress and several Yucca as well as some English Ivy.

Recommendations

The Cedar near the center of the cemetery is overcrowded by a large Spruce and should be removed as should the Cedar near the Larch in the southwest quadrant. The remaining Cherry next to the receiving tomb should be removed before it impacts the tomb like the former Cherry impacted the wall. The Cherry near the Town Hall growing in the fence line should at least be pruned if not removed. Additional large shade trees should be planted at the perimeter of the cemetery in locations where they will not impact grave markers or retaining walls.

Volunteer Growth

Issues

Volunteer growth was evident along the iron fence at the Norton family plot and along the southern edge at the east side.

Recommendations

Remove all volunteer growth.

Lawns

Issues

Lawns were in fair to poor condition with a few bare spots, some herbaceous weeds, and moss on north facing slopes on the north and west sides. Erosion was evident on the slope facing Center Street.

Recommendations

Repair lawn areas.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

The cemetery is accessible to pedestrians from Franklin Street and Center Street through latched, but not locked, pedestrian gates as well as through an open pedestrian easement adjacent to Town Hall. The slopes at the Center Street entrance are accessible but one is confronted with a steep slope once inside the gate. The Franklin Street entrance has steps. The path adjacent to Town Hall appears to be gentle enough to be considered accessible.

Recommendations

The steps at the Franklin Street entrance should be removed and the area regraded to allow universal access. Work should be performed in conjunction with an archaeologist to insure protection of any potential historic resource at the entrance. The path adjacent to Town Hall should also be utilized as an accessible route.

Vehicular Access

Issues

Service vehicles access the cemetery with the removal of selected fence panels on Franklin and Center Streets.

Recommendations

This access procedure appears acceptable and has not visibly harmed the site.

Security

Issues

While the cemetery is essentially enclosed with fences and gates, there is open access adjacent to Town Hall and none of the gates are locked. The cemetery is reportedly used for short cuts, particularly during meetings at Town Hall.

Recommendations

Security does not appear to be an issue in this cemetery and no changes are recommended.

VANDALISM

Issues

The impact of vandalism was evident, although not excessively so, in the form of four toppled headstones. No broken glass or paint graffiti was evident. The Town reported that about 10 headstones typically topple over each year [for reasons unknown] and that they have a program to reset them.

Recommendations

Vandalism does not appear to be a significant problem and remedial measures are in place to rectify damage caused by such activities. No changes are recommended.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

Existing paths are grass and there are no roads inside the cemetery. The path system is composed of a central north-south path that intersects with two east-west paths. The north-south path connects the Town Hall with the Center Street gate. There is one east-west path along the north edge and another in a central location connecting with the Franklin Street gate.

Recommendations

Maintain the existing path system. Do not add a road system.

Walks

Issues

A path system exists although it is not clearly apparent to visitors. Headstones impede through access at each path, and the grass surface blends with adjacent grass surfaces.

Recommendations

The path system should remain as it is. Improvement could impact the disposition of headstones which would not be desirable.

Steps

Issues

There are steps in two locations in the cemetery including the Franklin Street gate where there is a stone step and a tree root forming a second step. There are also stone steps up to the Cornell memorial bench adjacent to Town Hall.

Recommendations

Refer to recommendations regarding pedestrian and universal access.

Pavement Materials

Issues

All surface materials are grass.

Recommendations

Surface materials should remain grass until visitation reaches the point where it is no longer practical to maintain lawn. At that time a paved path system should be considered.

GRAVE MARKERS

Headstones and Footstones

Issues

There are approximately 475 primarily early 19th century grave markers fairly densely distributed in this one acre cemetery. No footstones were evident. The vast majority of markers are marble, about half of which are set in slate or granite bases. Most are pinned to their bases, but a fair number are set into slots in the base stone. Many are leaning out of vertical position with 4 toppled over and 1 almost buried. Two others are leaning against a tree and 8 are leaning against a family plot iron fence. A marble marker is encapsulated by the roots of a Spruce almost to the point of disappearing.

Slate and granite each account for about 10% of the markers and are generally in good to excellent condition. The marble memorials, on the other hand, are eroded and subjected to extensive green and black biological growths. Many are attached to their base stone with metal pins, which are now corroding and causing cracks. A number of stones suffer from unfortunate prior repair techniques including bronze straps and inappropriately colored epoxy adhesives. There are several broken markers that have not been repaired yet. Settlement is apparent at the bases of the larger markers, exposing foundation materials. There is no evidence of mower damage.

Recommendations

As a first cemetery wide priority, slate markers that are leaning should be made plumb. A stone conservator should examine each stone with metal anchors and/or dowels to determine the feasibility of systematically replacing them with more nonreactive materials. Markers should be reset on existing granite bases with pins. Similarly, markers should be reset on slate bases in good condition. Slate bases that are spalled or split pose special problems as to how to reestablish a firm footing for markers. Solutions should be considered for each stone individually. Markers set in slotted bases should be reset without pins, using lead strip in the gap between die and base, first having removed all debris from the opening and allowed the base stone to dry for a day or two after washing. Foundations should be stabilized as necessary prior to repinning markers. Exposed foundation materials at larger markers should be covered with earth fill. No cleaning should be permitted for marble markers with unstable or sugaring surfaces. Yellow biological growths on the surface of markers should be removed if the stone is stable to the touch.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

Franklin Street Stone Wall: This wall begins as high as a curb and gradually increases to about 30" high where it ends next the receiving tomb. The stone wall consists of mortared fieldstones ranging in size from 12" to 24" at the bottom of the wall to 6" diameter at the top. The mortar is generally hard and tight with little if any cracking. However, as the wall passes by the receiving tomb, it gradually leans out over the sidewalk until it is about 2" out of plumb at the corner next to the receiving tomb. A triangular corner post has separated from the mortared stonework. Roughly cut granite posts are embedded at regular intervals into the fieldstone work. These posts are similar to those supporting the picket fencing and also occur along Center Street on the north and along the south property line.

Northwest Retaining Wall: Although the ground along Center Street is lower than the rest of the cemetery, at a point 69' from the northeast corner it rises abruptly and is considerably higher than the adjacent properties along the east property line. The difference in ground elevation is retained by a stone wall consisting of large granite stones with dressed or broken faces. The 69' long Center Street section of retaining wall is also capped with three courses of concrete masonry. The mortar between the lower stones is generally cracked where the mortar meets the stones, with crack widths up to 1/8". The concrete masonry units are a standard 8" wide and 8" high, but an unusual 24" long. The top course consists of solid, beveled cap units. Water infiltration into the masonry units has caused extension deterioration in the faces of the units and at the mortar joints. Unit faces have a random cracking pattern resembling spider webs. These cracks also exhibit efflorescence from salts leaching through the masonry. Mortar is cracked or missing at several locations. The concrete masonry appears to have shifted near the corner of the retaining wall.

West Retaining Wall: The granite stone wall seen on Center Street turns the corner and runs along the east property line but without the concrete masonry courses. Except for a few feet at the southern end, this 133' long wall is completely hidden by overgrown ivy. Where it is visible, the mortar is cracked, loose or missing.

Southwest and South Decorative Stone Walls: From the end of the picket fence to the southeast corner of the cemetery and along most of the south property line, the cemetery is bounded by a decorative stone wall. It is a freestanding wall that is 6' high on the outside and about 3' high on the cemetery side. Only 10 to 12" wide at the top, it consists of uniform 4 to 6" diameter round stones mortared with deeply recessed joints. The mortar is generally tight and free of cracks, although there are many random holes or gaps in the mortar. The southeast corner of the wall appears to have been built first with a freestanding stone corner post, followed with the rest of the wall butted to the faces of the post. As a result of the vertical joint and lack of interlocking stones at the post, there is a large 3/4" crack at one of the interfaces.

Extending out of the freestanding stone wall is a railing system made of pipe stanchions and rails. Although the ends of the stanchions embedded in the stone wall do not appear to have corroded or damaged the wall, the visible sections of handrail and stanchions are severely corroded.

About 42' from the southeast corner, the freestanding stone wall meets a one story stone building, where it joins seamlessly with the building walls, which are also built of the same small, round stones. The 26' wide building is an addition to the clapboarded town hall. At the junction of the addition and the clapboarded wall, the stone wall continues as a low wall but it is incorporated into the foundation wall of the main town hall structure, although it stands 8" proud of the clapboarded walls. The decorative stone wall stops about 40' along the town hall wall, whereas the town hall continues along the property line. The stonework incorporated into the two buildings is in excellent condition although mortar repointing at the junction between the addition and the main Town Hall is lighter in color than the grayer color of the older mortar.

Recommendations

The fieldstone retaining wall adjacent to the receiving tomb tilts outward and should be rebuilt plumb. Excavate the earth between the west side of the receiving tomb and the stone retaining wall. Inspect and stabilize the west wall of the tomb if any movement has occurred. This may be the cause of the tilt in the retaining wall. Inspect the back of the stone retaining wall to determine its condition and thickness at the base. If the thickness is insufficient for a gravity retaining wall, less than 2' for a 30" high wall, dismantle the stone wall and rebuild it with additional stones at the base.

The upper part of the stone retaining wall at the northeast corner of the cemetery on Center Street should be removed. Remove the concrete masonry units from the top of the wall and remove the ivy along the east property line. Repoint the stonework of the base wall along Center Street and the east property line.

Minor repairs are needed at the southeast corner of the decorative stone wall. Repair the cracked joint at the southeast corner and remove the metal railing on top.

Interior Walls

Issues

At one location, near the Cleveland family plot, within the cemetery where the earth rises sharply from Center Street into the main plateau, there is a 34" high retaining wall consisting of rusticated concrete masonry units. About 25% of the units have damaged faces or disintegrating interiors due to moisture passing through the units from the earth side to the open side. This wall is capped with 2" of concrete. The concrete masonry units are typical of an early period in the history of concrete or cinder block manufacturing. These units may have been manufactured in the 1910's or 1920's by a local company using a Sears Roebuck press fitted with "rock face" patterns to simulate the appearance of stone. The rusticated pattern seen at the cemetery was one of the most popular, although other patterns also were available.

Recommendations

Repair the retaining wall adjacent to the Cleveland plot by dismantling the wall and setting aside intact concrete block units for reuse. Replace severely damaged units with matching units salvaged from other sites. Alternatively, replace the damaged units with roughly cut granite units. Build a concrete footing and reassemble the wall using through wall flashing at the top and a waterproofing membrane on the earth side.

Mound Tomb Structure

Issues

The front of the Town receiving tomb consists of roughly dressed, 6" thick slabs of pink granite. The joints of the jambs and lintel are open but there is no significant displacement or settlement. Although the iron door of the tomb is sealed shut, the upper sides of the tomb are visible where the earth has eroded away. The earth covered roof appears to be supported by granite slabs spanning from wall to wall. However, the walls are still covered with earth and could not be seen. There is erosion on the banks of the mound tomb. The iron door appears in good condition.

Recommendations

In general, the tomb appears to be in good condition but a restoration effort should include dismantling the facade stones of the receiving tomb, cleaning the joints and reconditioning the foundation stones, and reassembling them in new beds of mortar. The tomb door should be opened to inspect the walls and roof from the inside to determine if further work is needed. The earth banked around the sides of the vault should be regraded to eliminate signs of erosion.

Edging of Family Plots

Issues

Six of the family plots are edged. The Norton Plot is edged with an iron fence, the Hursell plot with rough cut rectangular granite edging, and four others with free standing granite posts. Three of the latter had chain barriers, and one, the Dillingham plot, has horizontal iron rails. One side of the one at the northwest corner, the Daggett plot, is edged with stone in addition to granite posts. There is also granite edging around the raised platform at the Cornell memorial bench.

The iron fence and rails of the Norton and Dillingham plots are discussed under interior fences and gates at family plots. The Hursell plot granite edging is composed of long units, 6" wide by 13" deep, that are pinned together at the corners. While the western and southern curbs are mostly embedded into the ground, the eastern and northern curbs have been fully exposed by settlement and erosion of the surrounding ground. Although the curbs are bedded on a layer of fieldstones, the northern curb has rotated outward at the top and the eastern curb has rotated outward at the bottom.

In the three family plots with granite posts and chain barriers, all of the chain is missing except for a short fragment left in place at one post. One of the granite posts is broken at the Smith plot.

Recommendations

The rotated granite edging at the Hursell plot should be reset and the ground level should be raised adjacent to it. The corner pins may be reused if they are undamaged. If damaged, they should be replaced with matching stainless steel pins when the stones are reset. Chain barriers should be replaced to match the existing fragment. Repair the broken granite post at the Smith plot and clean all granite posts.

FENCES AND GATES

Perimeter Wood Fences

Issues

Franklin Street Picket Fencing: Although contemporary, this wood picket fence may have been a replacement of a more historic element. The 4' high picket fence runs from the southwest corner of the cemetery along Franklin Street for about 109'. The pickets are nailed to a 2x8" top rail that lies flatwise across the tops of roughly cut granite posts. As the ground slopes downward toward the north, the last 30' of the picket fence overlaps a stone retaining wall. The pickets, 2x8" top rails and 2x4" bottom rails are untreated Spruce or Fir. Although it has been recently painted, there is considerable moss and mildew on the fence elements and localized areas of rot in the top rail, especially where sections are spliced with a ship lap detail. The worst damage occurs in the first two sections at the south end. Pickets in the third section are wracked.

Center Street Picket Fencing. The 198' long Center Street fencing is generally the same as the Franklin Street picket fencing, except it is in better condition with its fresh coat of paint. Three or four sections near the corner at Franklin Street have peeling paint and mildew, but there is no evidence of rot. A few random pickets are broken or loose. Three posts are pressure treated 4x4s rather than the typical roughly cut granite.

West Picket Fencing: As the height of the stone wall becomes lower along the property line, 68' of it is topped with an unpainted picket fence. The picket fencing is in fair condition overall but has considerable rot where the rails are spliced with ship lap joints. The southernmost section of fencing has fallen over.

Miscellaneous South Fencing: Beyond the town hall, the remaining fencing on the south property line consists of a solid board fence with a section of foundation wall adjacent to a neighboring barn. This section of fencing and wall appear to belong to the adjacent property owner.

Recommendations

Some localized maintenance is needed at the picket fencing along Franklin and Center Street. Maintain the picket fencing on Franklin and Center Streets by inspecting it annually and replacing damaged pickets and rails. Replace the 4x4" wood posts with roughly cut granite posts. The fencing should be painted on a regular cycle. Annual maintenance can be minimized if replacements parts are made with pressure treated wood. Replace the picket fencing on the east property line with a new picket fence. Run the new fence along the entire length on top of the stone retaining wall, including the 69' along Center Street.

Interior Fences and Gates at Family Plots






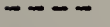




Issues

The Norton family plot is enclosed by an iron fence and gate. The fence is corroded with rust and some of the fence components are missing. The Dillingham family plot is enclosed by granite posts with iron rails and a gate. Four of the rail sections, upper and lower round iron rails, and the gate are intact. Five of the rail sections missing and four of the granite posts are broken. The latter was apparently caused by rust jacking at the ends of the iron rails.

Recommendations

Restore all ironwork and replace missing components to match existing. Repair the broken granite posts at the Dillingham plot and clean all granite posts.

LEGEND

-  Existing Evergreen/Deciduous Tree
-  New Tree
-  Remove Existing Tree
-  Existing Stone Wall
-  Existing Picket Fence
-  New Picket Fence
-  Utility Pole
-  Vehicular/Pedestrian Entrance
-  New Entrance Sign
-  Repair Erosion



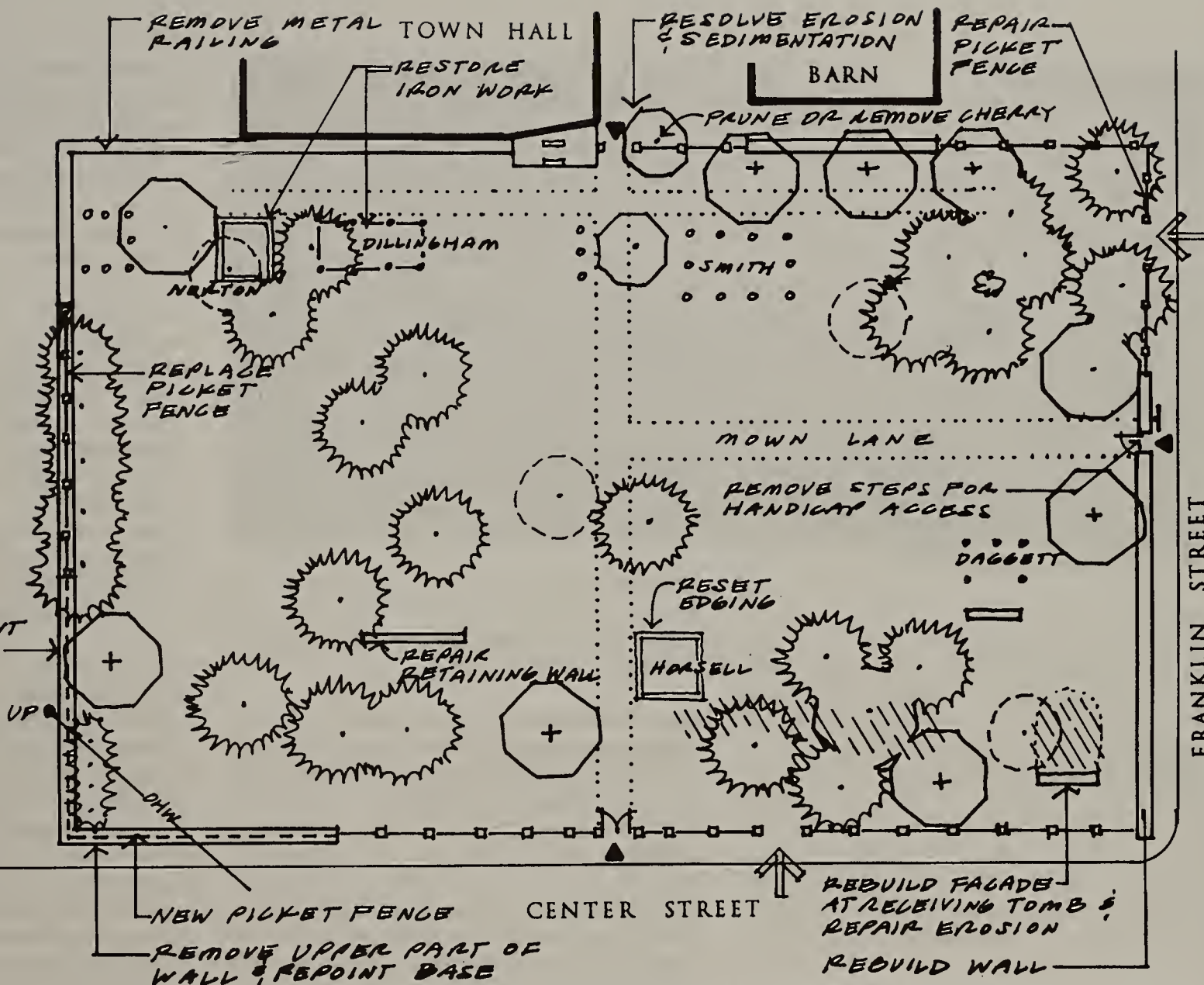
NORTH

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
NOVEMBER 1999 SARA B. CHASE, PRESERVATION CONSULTANT
1" = 40' OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

VILLAGE CEMETERY PRESERVATION PLAN TISBURY, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE



SITE AMENITIES

Signs

Issues

There are no identification or interpretive signs. The single sign found was a "No Parking" sign secured to removable fence panel on Center Street that is used for vehicular access.

Recommendations

Add an identification sign at the Franklin Street entrance. Add interpretive signs and/or informational brochures at a later date.

Trash Receptacles

Issues

None

Recommendations

Do not add trash receptacles.

Seating

Issues

The only bench in the cemetery is the marble Cornell Memorial Bench adjacent to Town Hall.

Recommendations

Do not add other benches.

UTILITIES

Drainage

Issues

No drainage structures were found inside the cemetery. In general, the site drains on the surface and flows from the south side to Center Street on the north side. There is a concentrated flow of surface drainage along the pedestrian way adjacent to Town Hall into the cemetery resulting in sediment deposits in the cemetery. Roof runoff from the building uses the same route. Erosion was evident in the pedestrian way, but not in the cemetery.

Recommendations

Resolve the erosion and sedimentation issues related to the pedestrian way adjacent to Town Hall.

Water Supply

Issues

No source of water was found inside the cemetery.

Recommendations

Water is beneficial in times of drought. Explore a means of adding a hose bibb on the side of the Town Hall facing the cemetery.

Lighting

Issues

No light fixtures were found. There are overhead wires crossing the northeast corner of the cemetery. The wires do not appear to be connected to the adjacent residence.

Recommendations

Do not add light fixtures inside the cemetery. If supplemental light is found to be desirable, consider adding it to the Town Hall facade and/or utility poles on the streets adjacent to the cemetery. Investigate the possibility of removing the overhead wires crossing the northeast corner of the cemetery.

PRIORITIES

High Priority

- Stone conservation including resetting and repair of slate markers and pin replacement in marbles that are visibly cracked or spalled
- Vegetative removals and pruning
- Perimeter and interior fence and gate restoration
- Repair of structural items like perimeter and interior walls and the mound tomb
- Erosion and lawn repairs
- Identification sign placement

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base
- Family plot restoration and repair
- Fertilization of trees
- Consideration of adding water supply

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Informational and interpretive signs
- Additional planting
- Consideration of removing overhead wires

National Register Status:	Not Inventoried
Current Management:	Cemetery Commission
Status:	Active
Condition:	Fair



Center Cemetery, Sam Hill Road edge

CENTER CEMETERY AND RINGVILLE CEMETERY

WORTHINGTON, c. 1770

Center Cemetery is a 2.4 acre long narrow rectangular site in Worthington Center. It contains what may be the oldest grave markers in the town including Nahum Eager, one of the first residents or settlers of the town and Rev. Huntington, the first minister. Many of the markers at the west end of the site were moved there from the former meeting house and cemetery site on a nearby hill. Many Brewsters are buried here, direct descendants of passengers on the Mayflower voyage, as well as veterans of Revolutionary War and Civil War. The oldest legible stone is that of Ashel Rowe [d 1790]. Although difficult to read, the slate Kinne marker may date from 1777.

Ringville Cemetery is named after the Ring family who owned a significant amount of land in the area. Raised above the gravel Witt Hill Road with a striking stone retaining wall, the cemetery is a short distance south of Center Cemetery. The parcel has an irregular shape sloping south and toward the bordering Watts Stream to the west. A recent addition, increasing the size of the cemetery to 3.1 acres, reportedly has limited usefulness for burials because of ledge and a high water table. 1814 was the earliest legible date seen in a brief survey of the grave markers.

Center and Ringville Cemeteries represent 2 of the 6 historic cemeteries in the town. Along with North Cemetery, these 3 remain active while the other 3 [Converse, Benjamin and Brewster] are closed and inactive. Recent efforts of the Historical Society, volunteers and Boy Scouts have resulted in the initial restoration of Brewster Cemetery where some cleaning work has been completed as well as some righting of grave markers.

In addition to having responsibility for burials, the Cemetery Commission provides basic maintenance including cutting grass and removing leaves and trash. An endowment for North Cemetery is used for the maintenance of that cemetery and the purchase of equipment that is used for the maintenance of all of the cemeteries. They are no longer mown with a scythe. Even though the Town has a tree warden who is an arborist, these historic cemeteries have not benefited from tree work. To date the allocated funds for this endeavor have been devoted to town street trees. This year, however, it has been reported that unused funds may be utilized in the cemeteries.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

Both sites present an image of old New England rural cemeteries. The long and narrow rectangular site of Center Cemetery is edged with Sugar Maples on all 4 sides, spaced approximately 20' apart, and formally subdivided into 3 distinct areas by 2 rows of trees. The central area, with the most obelisks, is the highest. In contrast, the irregular sloping Ringville Cemetery site only has mature Sugar Maples along the road and separating the older part of the cemetery from the recent addition.

Recommendations

A strategy for tree care and replacement is necessary because the majestic Sugar Maples are old and in poor condition. As the older Sugar Maples are removed, new ones should be provided in their place to maintain that sense of rural New England. New trees should not be randomly introduced into the interiors of the cemeteries.

Planting

Issues

All of the trees in Center Cemetery are Sugar Maples except for one White Ash [a 9" DBH volunteer located along Sam Hill Road] with a total of 76 trees. Both trees are native but the Ash is out of place in the overall scheme of this planted landscape. The average size of the Maples is 28.65" DBH and the largest is 42" DBH. It is evident from the different sizes of trees that some of the Maples replaced others that died. The cemetery also contains some Hydrangea, a Yucca and a Yew.

The trees are mostly old and in fair to poor condition. Many trees have a high percentage of decay in their main stems. Environmental conditions like wind and ice storms and drought have stressed many of them, particularly the older ones. Branches have failed and left open wounds allowing decay fungi to invade and spread. As trees age, growth slows and fungi take advantage of weakened conditions by spreading more quickly than a tree can compartmentalize to stop the spread of decay. A common result is large branch failure. Some structurally weakened trees lean toward the perimeter of the cemetery. While most are not a high risk to people visiting or working in the cemetery, 9 trees are a potential high risk and are recommended for removal.

Most of the trees have codominant and multiple main stems. The growth patterns on 32 trees with multistems and long extending branches are prone to branch failure. Low arching branches have been allowed to develop over the years on the north and east sides shading out grass and encouraging moss growth in the soil and lichen growth on grave markers. Most of the Maples have open growth habits so light should not be a major problem. However, trees outside the cemetery coupled with the existing Maples do create shade problems with the lawns and lichens.

The major trees in the older portion of Ringville Cemetery are along Witt Hill Road to the north and the east stone wall. The former serve as an edge between the cemetery and the road and the latter separate the old cemetery from the new addition. All 21 trees are Sugar Maples. Sugar Maple stumps and spaces between trees indicate tree loss. The average tree diameter is approximately 28" DBH. All trees are approximately the same size and assumed to have been planted within a few years of each other. The cemetery also contains some Hydrangea and a Rose. The new addition has 8 to 10' high White Pines along two edges separating the area from active farm fields.

In general the Maples are also in fair to poor condition as indicated from short annual terminal shoot growth, size of bud, accumulation of dead branches, percent of crown deterioration [die back], decay throughout the main stems of the tree structure and surface root loss or damage.

This appears to be an area that is prone to electrical discharge from lightning storms because a couple of trees had old lightning scars from the crown of the tree to the main stem.



Ringville Cemetery

It appears that these trees have had some pruning in the past 5 years because of some old pruning wounds. However, large amounts of deadwood have accumulated since. A number of trees have codominant and multiple main stems like those in Center Cemetery. Ringville Cemetery does not have the same shade problems that Center Cemetery has.

Four trees have either declined more than 50% or have deteriorated from decay. Environmental conditions such as lightning, wind, ice storms and droughts have stressed many of these trees. Four trees have extensive decay and present a high risk of failure because of past branch failure. Some of the high risk trees were either codominant stems or multistem trees at one time.

Recommendations

Many trees are recommended for removal. At Center Cemetery 9 trees that have structural problems from decay should be removed as soon as possible or the area should be fenced off to keep people from passing beneath or near these trees. Remove potentially hazardous trees and grind stumps to the grade of the surrounding soil only where they do not interfere with grave sites or grave markers. Work with the adjacent property owner at Center Cemetery to remove trees outside the cemetery to allow light to penetrate into problem shaded areas.

To improve the health of the trees some arboricultural services are recommended. Prune trees of dead and dying branches 2" in diameter and larger to decrease risk of injury or damage.

It would be a good investment to install support systems in structurally unsound trees to help prevent large branch and main stem failure, and prolong the lives of these old trees. Support cables [7 strand galvanized steel cable with eyebolts] should be installed on 30 trees at Center Cemetery and 10 trees at Ringville Cemetery. Support cables are installed approximately 2/3 above the main forks or 2/3 out to the end of the extending branch. Removing these long extending large old branches from these old trees would interrupt the manufacturing of nutrients and start an accelerated decline in the health of a tree.

Fertilize all trees with a slow release fertilizer having a 3-1-1 ratio of macronutrients. Once trees are in a healthy condition from fertilization, mulch and prune to lightly thin where branches are shading grave markers and grass. Trees should be inspected on a periodic basis to insure a safe environment and the preservation of trees.

Volunteer Growth

Issues

Although once a problem, volunteer growth is now well controlled in both cemeteries. Some detrimental growth was recently removed from an area adjacent to a large monument at Ringville.

Recommendations

Continue to remove all weed trees and volunteer growth including under brush around trees.

Lawns

Issues

Center Cemetery has some bare spots, moss, a few perennial weeds and some depressions. Ringville has similar conditions but there is less shade and the ground cover is generally more dense. It is evident from the type of weeds growing in these sites that the soil is either lacking in nutrients or the soil acidity is too low or too high.

Recommendations

Repair lawn areas.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Open all along Sam Hill Road, Center Cemetery has no formal pedestrian entrance. Ringville Cemetery has 2 points of pedestrian access with steps. There is a deteriorating iron gate at one of the entrances with a 5' wide opening. The other has no gate. Some of the slopes in each site are too steep for universal access and all surfacing materials are grass. Parking is possible along the public roads at both sites, and visitors can drive into the sites on grass drives.

Recommendations

No changes are recommended for pedestrian access. Universal access should continue to rely on vehicular access routes.

Vehicular Access

Issues

Adjacent to public roads, both cemeteries have multiple points of vehicular access. While Center Cemetery has 4 formal points of entrance, access can be made anywhere along Sam Hill Road without the former fencing in place. Ringville Cemetery has 3 points of vehicular access from Witt Hill Road, 2 to the older cemetery and 1 to the recent addition on the west side. Openings are 9' wide at the east, 12' wide in the center and 14' wide at the west. The latter, through an informal opening created in the stone wall, appears to be the most used.

Recommendations

This system appears sufficient for the visitation requirements and no changes are recommended.

Security

Issues

The sites are essentially open. Vehicular access points are not gated. The pedestrian gate at Ringville cemetery is low and dysfunctional. Perimeter walls are relatively low and can be easily scaled.

Recommendations

Security is apparently not a significant issue on these properties and improved measures should not be pursued at this time.

VANDALISM

Issues

Although no vandalism has been reported recently, there is evidence of such activities in the past with some toppled and broken grave markers at both cemeteries and some old paint graffiti on the iron doors of the receiving tomb at Ringville Cemetery. Some occasional vandalism has been reported at North Cemetery.

Recommendations

Vandalism is not a significant problem and no changes are recommended at this time other than grave marker repair and removal of old paint graffiti.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

Center Cemetery has an incomplete rectangular vehicular circulation system with multiple connections to Sam Hill Road. The circulation system at Ringville Cemetery appears more informal with multiple connections to Witt Hill Road. Circulation at the older ends of both sites is not clearly defined. Covered with grass throughout, there is no formal pedestrian circulation system at either site.

Recommendations

No changes to the circulation systems are recommended at this time.

Walks

Issues

There are no defined walks in Center Cemetery and a single central grass path in Ringville Cemetery.

Recommendations

No changes are recommended at this time.

Steps

Issues

While there are no steps at Center Cemetery, Ringville contains 3 sets of rough hewn stone steps. The central pedestrian entrance has 2 sets of 4 risers with random riser heights and tread widths. At the end of the grass path opposite that entrance is another set of stone steps with 3 risers. The top stone needs to be reset. Another set of 4 risers is located in front of the receiving tomb.

Recommendations

Reset the top stone at the set of steps opposite the pedestrian entrance.

Roads

Issues

The one lane drives are in fair condition despite the maintenance requirements.

Recommendations

Maintain the drives as they are.

Pavement Materials

Issues

Gravel and grass are the only pavement material in use. It is apparently minimally maintained and lightly used. All walking surfaces are grass, generally with no defined circulation system.

Recommendations

Gravel is a historically appropriate material for drives and it should remain as long as it is properly maintained. Surface materials for walks should remain grass until visitation reaches the point where it is no longer practical to maintain lawn. At that time a paved path system should be considered.

GRAVE MARKERS

Headstones and Footstones

Issues

The grave markers are predominantly marble in the older western section of Center Cemetery with some slate and brownstone, and a small zinc marker and a wood cross. Many of the slate markers may be old but they are illegible, delaminated or broken. Numerous marker stubs remain. It is unusual to find a marble grave marker as old as the 1785 Hart stone in this area. The central portion has approximately 20 granite and 30 marble grave markers with 7 or 8 obelisks. The approximately 58 grave markers in the still active section at the east end are primarily granite. Although the grave marker layout is somewhat random in the far west end, there is a regular rectangular layout throughout most of site. A few cast iron and/or bronze flag holders marking the graves of veterans of the Revolution and other wars were found. These seemed to be in reasonably good condition.

While the most serious problems are found west of the center of the site and mostly at the far west end, the two problem conditions that prevail throughout Center Cemetery are structural problems leading to tilted or toppled stones, and accumulated soiling of stone surfaces. A quick survey found 29 markers significantly leaning, 16 toppled and 10 broken. A portion of an old strap repaired marble marker was found lying on top of the perimeter stone wall. In part, the structural problems are caused by frost action, settlement, erosion and plantings. The latter also exacerbates soiling. By impeding the rapid evaporation of moisture and remaining damp, the stones support mildew and fungal growth. Two most common types of soiling here include lichen [particularly on slate and granite] and a black or dark brown fungus.

The erosion of soil from the bases of the markers and subsequent exposure of the stone footings makes the stones easy for vandals to push over and also permits the stones to lose mortar or lead caulking and thus separate from their bases. The taller a marker is, and the less securely it is anchored to its base, the more likely it is to fall. Obelisks are in particular danger due to their greater vertical exposure. Many of the larger monuments and obelisks exhibit settlement at their bases, exposing stone foundations. The Bartlett brownstone obelisk is leaning.

At Ringville Cemetery the upper portion of the cemetery has approximately 25 granite and 55 marble markers. The downhill portion has approximately 56 marble and a few granite markers as well as some slate tablets. A quick survey found 9 broken markers, 2 broken bases, 8 toppled markers and 23 leaning. Some staining from iron dowels was evident in the 2 part marble markers. Most of the damage was noted in the downhill area. Some markers in the upper area have plantings which are growing too close to the stones, causing soiling to build up on the stone surfaces.

All of the granite markers have some lichen growing on them. Some are nearly covered with a gray-green lichen and others have yellow lichen. The marble markers all have some degree of mildew and black fungal growth on them. Some are nearly covered. The slates also have some lichen on them.

Recommendations









The first priority is to reset all toppled and significantly leaning markers in a sound vertical position. In addition, remove all plants that are rooted immediately adjacent to the markers. Repin units that have come apart cleanly.

Reset the Bartlett obelisk to a vertical position and provide earth fill to cover the exposed foundations of this and other obelisks to raise the level of the ground to the proper level to prevent erosion, undermining and eventual destabilization.

Cleaning the markers is also critically important. Continued mildew and fungus growth can eradicate the surface detail and inscriptions. Conduct a survey to identify all markers that are severely soiled but still have legible inscriptions and carefully clean those first under the supervision and instruction of a stone conservator. Those whose inscriptions are entirely eroded or otherwise illegible should be cleaned only after all of the legible markers are conserved.

The zinc marker appears to be in sound condition, but should be monitored periodically for opening joints. The seams at the sides of the central or shaft portion of the marker appear to be splitting, as do the seams on one side of the top. A conservator should be consulted to determine the best way to close the splits to prevent moisture from getting inside, causing rust.

LEGEND

-  Existing Evergreen/
Deciduous Tree
-  New Tree
-  Remove Existing Tree
-  Existing Stone Wall
-  New Wood Fence
-  Vehicular /
Pedestrian Entrance
-  Existing Lawn Drive
-  Identification Sign



NORTH

NOVEMBER 1999

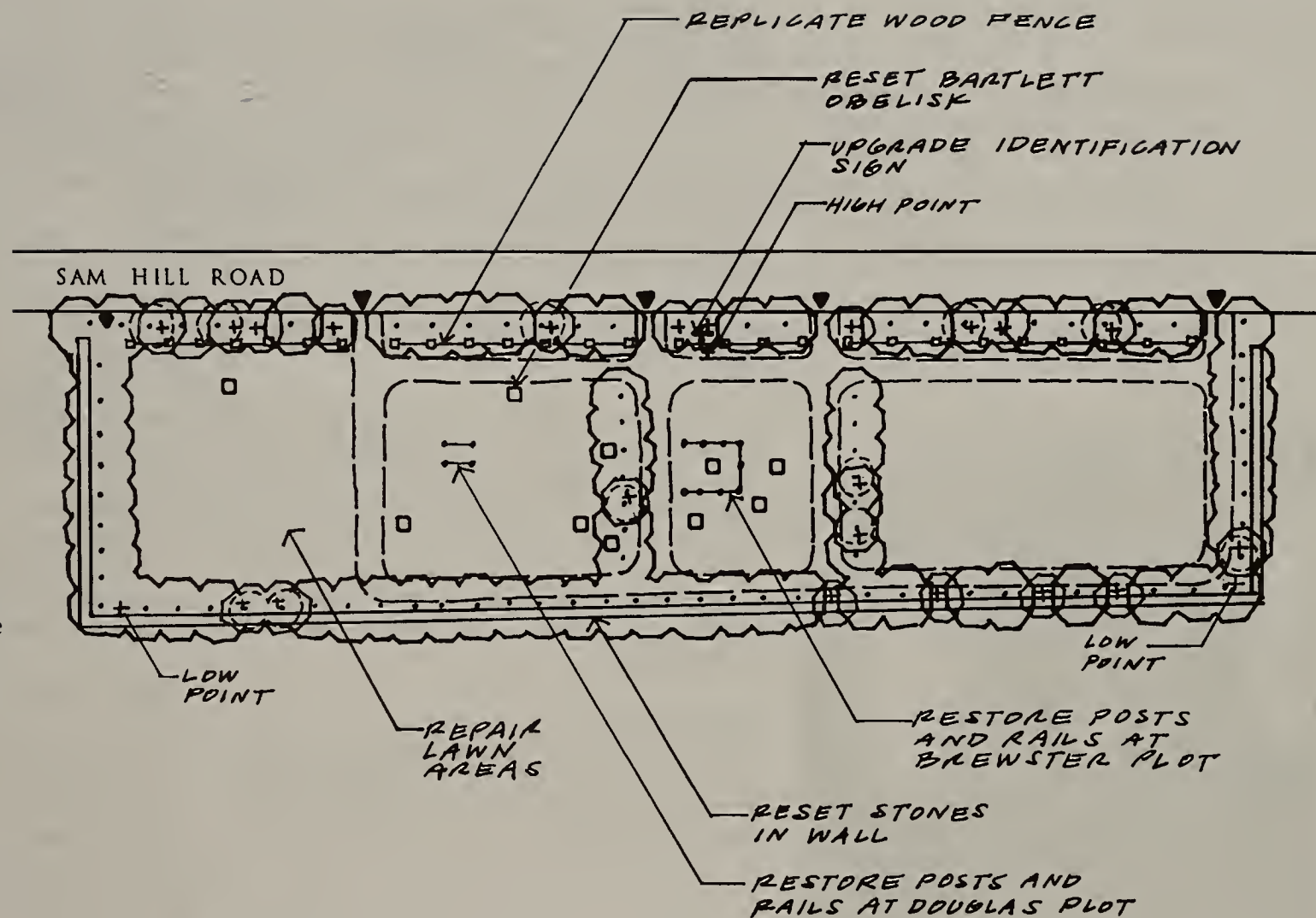
1" = 100'

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
SUZANNE SPENCER-WOOD, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

CENTER CEMETERY PRESERVATION PLAN WORTHINGTON, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE



STRUCTURAL ELEMENTS

Perimeter Walls

Issues

Free standing dry laid field stone walls form 3 of the perimeter edges of Center Cemetery. Because the walls have no mortar, they are structurally vulnerable to pressure from either side. Piling leaves against them, even temporarily, may accelerate rebuilding requirements. Some of the large flat stones as well as the smaller and rounder stones have shifted and some minor rebuilding is necessary.

Ringville Cemetery, Stone wall along Witt Hill Road



256 - Worthington

The dry laid rubble stone retaining wall along Witt Hill Road at Ringville Cemetery was built about 1900 with stone hauled by oxen and wagons from West Chesterfield Gorge, 8 to 9 miles away. It appears to have been built in two stages with a slightly different character for each. The west end appears to be relatively level with a vertical face while the sloping east end has about a 6" batter on the face. Overall, the wall appears to be in stable condition with some slight shifting of the granite cap stones that are about 4" thick, 16 to 20" wide and very long, with one about 21' long.

Along the east end or downhill slope of the cemetery, the dry laid free standing fieldstone wall is lower and more casual. The similarly constructed walls along the line separating the older part of the cemetery from the recent addition, at the west edge and along the Witt Hill Road edge of the addition are in the worst condition and will require more substantial rebuilding.

Recommendations

Provide localized resetting of stones in walls and repair breaches. Discontinue piling leaves against the dry laid stone wall to keep the wall in sound condition.

Tombs and Vaults

Issues

Ringville Cemetery has a free standing brick vault serving as a receiving tomb. Donated by the Blair family, the 9'-4" by 7'-4" structure has a granite entrance face with iron doors and a concrete top. Some separation has occurred at the mortar joints in the granite, between the brick and granite, and at the top of the granite. At the top courses of brick there are some areas of missing mortar as well as separation and cracks in the mortar. Some of the bricks have spalled at the northeast corner. The concrete cap does not have a drip edge. Although rusted, the iron doors appear operable. There are no vaults or tombs at Center Cemetery.

Recommendations

The brickwork should have a total repointing, using a mortar which has the color, aggregate, and strength of the original mortar. The ironwork should be cleaned, primed and painted.

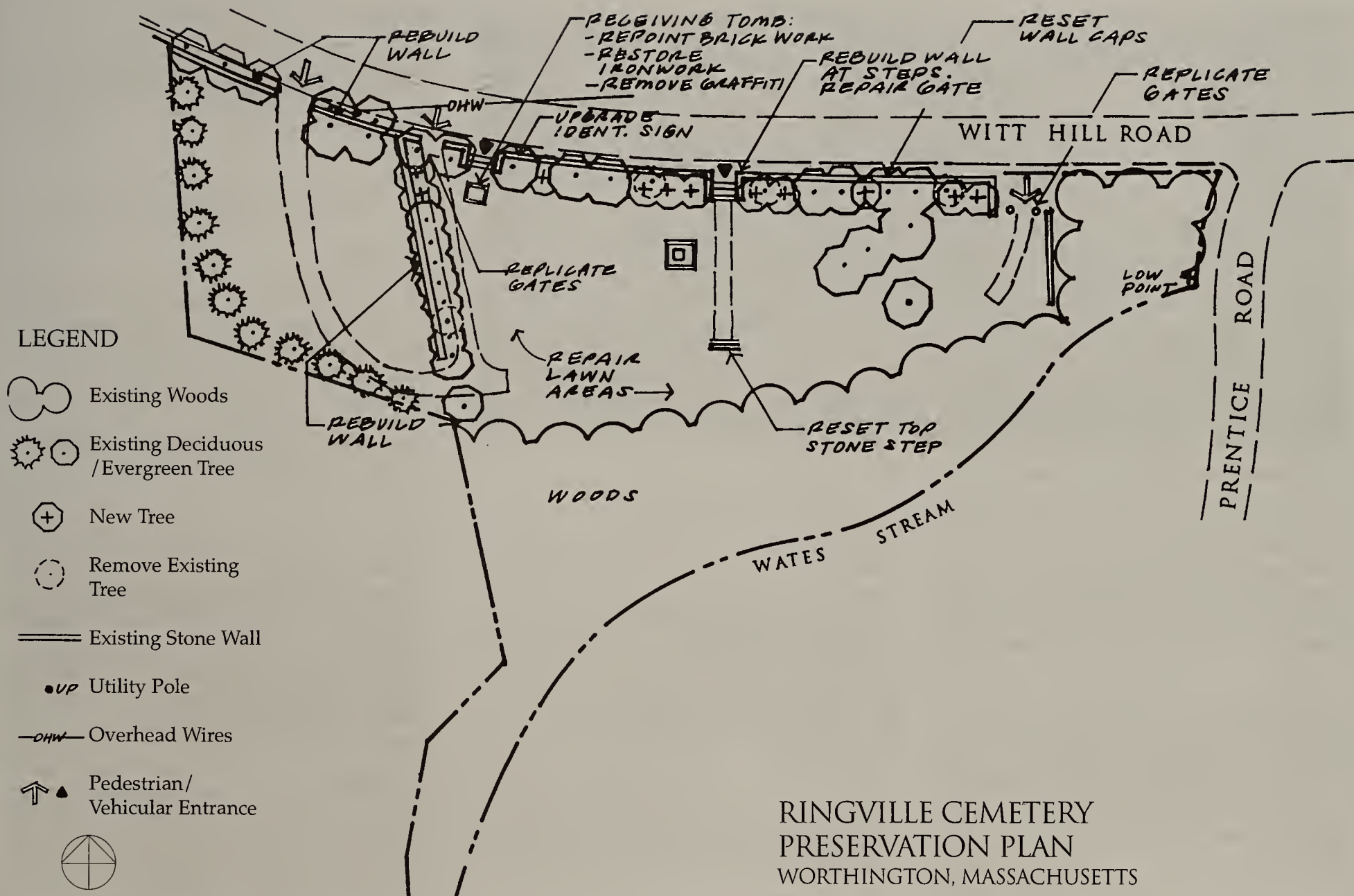
Edging of Family Plots

Issues

Two of the family plots at Center Cemetery have tubular iron rails and stone posts. The Brewster family plot, near the high point of the cemetery, has 10 granite posts with iron rails and iron chains at the two pedestrian entrances. Long spans of rails have iron support posts. Some of the rails are bent. At the Daniels family plot which has 4 marble posts, 2 of the 4 iron rails are in place and 2 are missing. Only one family plot at Ringville Cemetery has low granite edging. It is in good condition except for some lichen growth.

Recommendations

Restore these elements where possible.



RINGVILLE CEMETERY PRESERVATION PLAN WORTHINGTON, MASSACHUSETTS

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FENCES AND GATES

Issues

Neither cemetery currently has fences. At Center Cemetery, it was reported that the oldest legible records indicate that a wood fence was built along and parallel to Sam Hill Road in 1875. It was made of Chestnut with horizontal top and bottom rails and a diagonal cross pattern between the posts with a center brace. The fence was removed in the mid 1960's. Based upon the remaining evidence of flat stones with iron dowels set in them, the posts were spaced about 8' apart and were located on the cemetery side of the street trees along Sam Hill Road.

There is evidence of former vehicular gates at Ringville Cemetery as well as an existing pedestrian gate. The latter is a rusting iron gate that spans a 5' wide opening. It is damaged, bent in part apparently due to a shift in the wall. The two points of vehicular access to the older portion of the cemetery once had gates. There are 2 iron hinge pins on one of the 4' high rough hewn granite gate posts at the east entrance. At the center entrance, one of the rough hewn granite gate posts has a hook and the other has 2 iron hinge pins and 3 iron rings. The east post is leaning.

Recommendations

Replicate the Center Cemetery fence and Ringville Cemetery gates based upon photographic or other records. Repair the pedestrian gate at Ringville Cemetery after repairing the stone wall. Clean, prime and paint the gate.

SITE AMENITIES

Signs

Issues

Each site has an identification sign, a metal street sign on a metal post. No other information is provided.

Recommendations

Upgrade the identification signs in a manner that is appropriate to these historic cemeteries. Add interpretive and/or informational signs at a later date.

Trash Receptacles, Seating and other Amenities

Issues

Other than one bench in the newest area of Center Cemetery, there are no amenities of this type inside these cemeteries.

Recommendations

Do not provide these amenities.

UTILITIES

Drainage

Issues

No drainage structures are evident. Both sites rely on surface drainage.

Recommendations

No changes are recommended.

Water Supply

Issues

While there is no source of water inside the cemeteries, there are fire hydrants outside the sites in the public way.

Recommendations

No changes are recommended in terms of water supply.

Lighting

Issues

No source of electricity or light fixtures was observed inside the cemeteries. Overhead wires are adjacent to the new addition at Ringville Cemetery.

Recommendations

Do not provide light fixtures in these cemeteries.

PRIORITIES

High Priority

- Stone conservation including resetting and repair of markers and pin replacement in marbles that are visibly cracked or spalled
- Vegetative pruning and removals
- Repair of structural items like perimeter walls and the receiving tomb
- Lawn repairs including earth fill at obelisks
- Remove paint graffiti

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base, and cleaning legible markers
- Installation of support cables and fertilization of trees.
- Family plot restoration and repair [edging, fencing, chains and gates]
- Reset step at Ringville Cemetery
- Upgrade identification signs

Low Priority

- Stone conservation including marbles currently in satisfactory condition
- Replicate perimeter iron fences and gates, and wood fence at Center Cemetery
- Informational and interpretive signs
- Additional planting.

National Register Status: Listed, in Centre Village
Historical District, 1978
Current Management: Department of Public
Works
Status: Active
Condition: Fair



Oak Ridge Road entrance

OAK RIDGE CEMETERY

SOUTHBRIDGE, 1801

Located on Main Street a few blocks southeast of the town center, the monumental historic stone arched entrance to Oak Ridge Cemetery is highly visible. About 55 acres in size today, the cemetery began with one acre for a burial ground given by Col. Benjamin Freeman to the Poll Parish of Southbridge in May of 1801. Poll Parish was later incorporated into the town of Southbridge and additional adjoining land sections were purchased to bring the total land area to 25 acres. In 1921 an additional 30 acres of adjoining forest land was given to the town by Miss Ella Cole to be used as a cemetery when needed.

Because of the size of the cemetery only the oldest area at the north end, between Main Street and Oak Ridge Avenue, was examined. Most of this area slopes from a high point toward Main Street and is the narrowest part of the cemetery. It is surrounded by private property on the north and east and a YMCA on the west. The newer part of the cemetery is to the south.

The property was managed by a Cemetery Commission until 1975, when the Department of Public Works assumed the responsibility for care.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The older north end of the cemetery is generally open, with a few trees along the edge. The southern part has numerous trees in a random pattern and a high diversity of plant material types. Over time, the land adjacent to the cemetery has been developed such that some structures are now in close proximity to the property. The YMCA building, in particular, has created a significant visual intrusion at the current entrance.

Recommendations

Provide some planting to screen the YMCA building from the entrance experience. Provide additional screen planting at buildings close to the east and west property lines. Some replacement trees could be added to the wider south end of the project area but few should be added to the older north end.

Planting

Issues

Plantings include a variety of deciduous trees like White Ash, American Elm, Horse Chestnut, Black Locust, Sugar Maple, White Poplar, Black Walnut, Black Cherry, Flowering Crabapple and White Mulberry. Evergreen trees include White Cedar, Chamaecyparis, Eastern Hemlock, Norway Spruce and White Spruce. Yews are located at many grave sites and many are overgrown. Other shrubs found include Barberry, Yucca and some leggy Rhododendron near the Oak Ridge entrance. Euonymus is climbing over a wall in the northeast corner.

In the older section of the cemetery 62 trees were examined and most of them are in poor to fair condition. About 50% [33] of them should be removed because they present a hazard to the public, adjacent properties and/or the historic resources of the cemetery.

Recommendations

Remove the hazardous trees and prune most of the trees to remain. To help ensure the longevity of 3 large Sugar Maples, the installation of support cables will help prevent large branch failure. Work with abutting property owners to remove hazardous trees leaning into the cemetery.

Trees would benefit with the addition of organic material to the soil beneath their canopies. This helps retain fertilizer and moisture. Mulching also reduces mowing requirements and tree roots do not have to compete with grass roots for nutrients and moisture. A 3 to 4" depth of mulch should be applied beneath most tree canopies. Composted wood chips or other composted material would be very beneficial together with fertilizer. A granular fertilizer early in the spring could be applied first and then mulched over.

Shrubs concealing small grave markers should also be removed.

Volunteer Growth

Issues

This type of growth is found primarily at the edges of the property, mostly outside the cemetery.

Recommendations

Remove volunteer growth inside the cemetery and work with abutting property owners to have volunteer growth that is detrimental to cemetery resources removed.

Lawns

Issues

The quality of lawn area varies a great deal, from good to poor. There are some areas of moss, herbaceous weeds and bare spots. Two areas of erosion were observed.

Recommendations

Eroded areas should be repaired as soon as possible to prevent further damage. Soil tests should be taken throughout the cemetery to determine soil acidity [pH]. From these analyses, pH adjustment and fertilizer requirements can be determined. A lime and fertilization program is recommended to improve lawn quality.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

The site is generally considered accessible only by vehicle because of the numerous steep slopes. The central path from the Main Street entrance, which is padlocked closed and not used, has some slopes of about 13%. Most of the drives extending from the Oak Ridge Avenue entrance including Broad, West, North and Main Avenues have areas that slope about 11%.

Pedestrian access from Oak Ridge Avenue includes a concrete sidewalk to the pedestrian gate with a 42" clear opening, but no paved walk inside the cemetery. The 13' wide bituminous paved drive serves both pedestrians and vehicles.

Recommendations

No changes are recommended. Because of the steep slopes, universal access should continue to rely on vehicular routes.

Vehicular Access

Issues

Access for vehicles is provided primarily at the Oak Ridge Avenue entrance gate which has a 12' clear opening. Another access point from Coombs Street at the south end is also available. No designated parking spaces have been provided. Visitors park along drives.

The Main Street gate has a 70" clear opening which was reputedly set 6" too narrow for use by hearses.

Recommendations

No changes are recommended.

Security

Issues

The site has little security. The occasional police patrols may deter some negative activities.

Recommendations

Because vandalism does not appear to be an issue at this time, additional security measures are not recommended.

VANDALISM

Issues

It appears that there were problems in the past based upon the quantity of broken and toppled markers. Recent evidence of vandalism is minimum with a small amount of written graffiti on the Ammidown family tomb, and a small swastika scratched on the face of the slate marker of Mrs. Sally Baylies. The latter could have been there for some time. One beer bottle was found in the north end.

Recommendations

Besides removing written graffiti, no other changes are recommended at this time.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

The primary circulation systems are the drives which are about 13' wide. Broad Avenue extends into the cemetery from Oak Ridge Avenue. A loop drive, consisting of West, North and Main Avenues, extends from Broad Avenue into the project area. First and Fourth Avenues also connect Broad Avenue with North Avenue. The former entrance from Main Street and Central Path is no longer used.

Recommendations

No changes are recommended.

Steps

Issues

Most of the steps in this part of the cemetery are related to family plots and they are primarily granite. A set of concrete steps immediately west of the receiving tomb appears to have been hit by a snow plow. The cheek wall on the west side of the steps has extensively deteriorated. The finished surface of the concrete is cracked and spalled, and the underlying concrete appears to be punky. It is likely that the all of the exposed concrete in this wall is unrepairable.

A set of 6 granite risers are in the wing wall extending from the receiving tomb. The bottom piece does not match those above. It may have been added at a later date when settlement and/or erosion of the earth at the base of the wall occurred.

Recommendations

To repair the set of concrete steps, chip the deteriorated concrete down to sound concrete, which is likely to be just below the ground surface, and replace with new, formed concrete.

To repair the set of granite steps, disassemble and reset them on a proper foundation. Provide earth fill at the base of the steps to restore the original grade.

Road Edging

Issues

A few lengths of old 2' wide concrete gutter that apparently no longer serve a purpose are located near the receiving tomb.

Recommendations

If it is determined that the gutter was part of the original drive construction, it should remain in place. If not, the gutter should be removed.

Pavement Materials

Issues

The former gravel drives are generally paved with macadam or bituminous concrete. Broad Avenue is in fair condition but the others have deteriorated with only a few remnant pieces of paving left in the exposed gravel base. First and Fourth Avenues, and all walks are lawn.

Central Path extends into the cemetery from the gate and has about a 10' clear width. The straight path is edged with 4" wide granite curbs and 2' wide concrete gutters or wheelways on each side of a crowned section. The center is lawn and relatively level in section. Much of the edging [about 250 linear feet] has rotated out of position and would benefit from being reset. Much of the concrete gutter is steeply sloped in relation to the edging.

Recommendations

Because of the steep slopes, driving surfaces should be paved to reduce erosion potential and maintenance requirements, and provide a universally accessible route to this part of the cemetery.

Along Central Path, reset edging and replace gutters that are out of alignment.

GRAVE MARKERS

Headstones and Footstones

Issues

While predominantly marble, this portion of the cemetery has a mix of slate, sandstone, brownstone and granite markers as well as zinc. There are also a few unusual granite tablets cut in the manner of slate tablets. In the northernmost section all of the markers face Central Path. They are in fair to poor condition with a significant amount of damage. A brief survey found 8 broken slate markers, 1 broken sandstone, 15 broken marble, 2 marble markers being enveloped by a tree, 11 toppled marble, 4 multipart marble markers broken at dowel joints, and 3 marble adhesive repairs. Although slate markers show evidence of mower or weed whacker scarring, the gouges are not deep or numerous.

The primary problem affecting over 75% of the markers is structural. Soil has eroded away from the bases leaving one or more corners exposed with the loose stone or gravel setting material beneath the base often visible. Not too many are tilting badly yet, but this condition should be remedied before they do. More commonly, footstones are shifted out of place due to washout of the earth around or above them.

The second major problem is soiling and erosion of inscriptions. This adversely affects preservation of the main purpose of a marker, identifying the location of a specific burial. In this cemetery, where the majority of the markers are made of marble, atmospheric pollution [including acid rain] and accumulated dirt and botanical growth obscure lettering and designs. As with the soil erosion, for most of the markers there is still time to prevent complete obscuring of the words and symbols.

All of the brownstone markers, among the large stones here, have abundant lichen growth of several different species. Many of the marble markers have the black mildew / fungal growth and / or grey and green lichen. Even some granite markers are afflicted with botanical growth on unpolished portions.

Where broken or toppled stones are lying flat on the ground, they are becoming quickly covered with grass and disappearing. The Ames family plot has footstones of polished granite, a masonry type and finish quite resistant to atmospheric pollution. But as earth encroaches over the edges, the originally gold leafed names have become almost obscured and have lost all but faint traces of the gilding.

Only 2 zinc markers were found and they are in good condition, except for an odd black stain on the drapery over the urn on the Spencer marker. It is unusual for zinc to corrode or support mildew growth even where water may not evaporate quickly such as in the drapery folds. The stain was not analyzed at this time. Of interest is the identification of the Monumental Bronze Company of Bridgeport, Connecticut, on the Leach marker. Substantial archives exist on that company, and some of their large format periodical publications identify many of the markers they manufactured.

Recommendations

In addition to preparing a detailed record of the markers, an inventory should be made of all markers that have accumulated botanical and atmospheric materials to help determine which stones should have conservatorial cleaning. Some will be found to be completely illegible, even when delicate measures are taken to see if there is any way to pick up surface indentations that can imply the original text and / or design.

Clearly those stones should not be given expensive treatment. Other stones have artwork and inscriptions that are still legible if properly cleaned. Of those stones, some criteria for ranking importance [earliest dates, most important families, most notable carving, etc.] should be made so as to set a clear cleaning policy. Unless cleaning is done by qualified conservators or under their instruction and supervision, it may result in more damage than good. This is most critical on marble and brownstone because they are geologically grainy and improper removal of lichen could remove inscriptions as well.

The first condition to be remedied is the structural stability of the stones that have eroded soil at their bases by providing a free draining earth fill to the appropriate level.

Stones that toppled may need various treatments, depending on their original positions. Those that were upright should be restored to their original position. Broken markers should be repaired by qualified conservators who know which types of adhesives, repair methods and materials for breaks, cracks or base filling are best in which circumstances. Where mortar is used for repairs, it should be formulated to match the stone in strength [high lime], color, aggregate and surface finish.

Monuments

Issues

The tall vertical types of markers [obelisks, columns, squared pillars] occur frequently, evidence of the taste of the Victorian period from c1840 through 1900. In the area immediately south of the long Central Path are more than 25 obelisks and columns. Earth settlement or erosion has occurred at the bases of many of these larger structures including the Norcross obelisk and Litchfield/Cheney monument, exposing and undermining foundations. Over time this will lead to the tilting or toppling of these elements and potential breakage. The latter monument also shows the effects of environmental pollution. A few of the marble obelisks have been broken. Some have not been repaired. One has a mortar repair and another has been reset, staying in place by weight and gravity.

Recommendations

Provide free draining earth fill to the appropriate level at the bases of monuments where settlement or erosion has occurred. A qualified conservator should clean and repair soiled and broken monuments.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

Main Street Entrance Arch

The 1878 Main Street entrance consists of a passage through a monumental stone arch made up of relatively small, mortared granite units, probably quarried in nearby Monson. The cut stone is coursed. The arch is in fair condition. Although there has been little, if any, shifting and displacement of the stonework, there is evidence of extensive water infiltration into the joints and behind the stones.



Main Street entrance arch

Moss, potentially nourished by the lime in the mortar, has developed at the joints in the upper 5 or 6 courses where water seeps out and many joints are cracked or have missing mortar. The joints are at least 1/2" wide and appear to have been originally tooled so as to be slightly recessed from the flat margins cut on the stones. That might account for the retention of enough moisture to support plant growth. There is evidence that some of the joints have been partially repointed. It is only a matter of time before freeze-thaw action in the joints will begin to wedge upon and displace individual stones.

Main Street Wall

The 3' high walls on both sides of the arch are mortared coursed granite with a 7" thick by 17" wide split face granite cap. These walls have deteriorated in a manner similar to the arch with missing mortar and loose and tilted granite capstones. On the south side of the wall and arch, the ground level has settled or been eroded to such an extent that foundations are exposed. Because there is a foot or two difference between the earth grade on the cemetery side and the sidewalk on the street side, water and soil can flow through the stonework and attack the mortar from behind. Water also infiltrates through cracked joints between the capstones.

To some extent, the cracking and shifting of stone units does not affect the structural integrity of such a low wall, but it creates a "look" of deterioration. A large tree on the west side of the gate is pushing the wall over in that immediate area.

East and West Boundary Walls

The 2.5-3' high walls extending south along the sides from the Main Street entrance are traditional loosely laid fieldstone walls. The walls are fairly stable, but do have increasing accumulated tree droppings and the like. In some locations the earth grade is a few feet higher on one side of the wall than on the opposite side and in other locations the walls are completely freestanding. The casual but tight arrangement of the stones are a classic feature of these walls. There is one location where the wall on the west side has been altered with heavy mortar to buttress the foundation of a red barn that encroaches on the cemetery boundary. Nearby, the roots and growth of two volunteer trees have caused stones to topple.

Oak Ridge Avenue and YMCA Wall

A 3' high mortared fieldstone wall separates Oak Ridge Avenue from the adjacent YMCA property. The wall may have been unmortared in the past but it has been extensively rebuilt with the addition of flat stones and mortared joints. The heavily mortared stonework has numerous cracks through the mortar joints and between the joints and stone arrises. Several joints are completely open and there are occasional missing or loose stones. The wall appears to lean back near the east end but it has been buttressed with a tapered base on the YMCA side of the wall.

The lower section of the wall east of the YMCA, particularly in the area adjacent to the play area, has been partially knocked over and scattered. It has been partially rebuilt but without the eye of the original wall builders. Instead of being fitted together like a puzzle, the replaced stones are merely set one on top of the other, like marbles, and mortared where necessary to maintain stability. At the higher section of the wall behind the YMCA, the wall generally retains its original character.

Recommendations

Main Street Entrance Arch and Walls

The entire arch should be repointed. The relatively uniform joints should be cut back to a depth at least twice the joint width and pointed with a medium strength mortar matching the original mortar in color, composition and finish. Where mortar deterioration penetrates into the work deeper than just an inch or so, it must be raked out completely, even to the extent that individual units are loosened and have to be reset.

The adjacent walls can be repointed at the same time as the arch but annual or biannual maintenance will be needed. If mortar cracking is chronic in only one or two locations, the soil behind the wall needs to be opened up and drainage fill material installed to prevent the buildup of water and clayey or loamy soil that can create pressure on the mortared face of the wall.

East and West Boundary Walls

Where the walls have fallen over, they should be rebuilt by an experienced fieldstone mason. Elsewhere, the walls need to be inspected each year so any seasonal deterioration can be corrected. Seasonal deterioration can include any stones that have fallen out or any unusual leaning or heaving. It should be noted, however, that the very nature of these walls is to be rough, uneven and crooked. But fallen stones should not be simply placed on top of the overall pile. Rather, they should be restored to their original location, if possible, or set to fit with adjacent stones.

Oak Ridge Avenue and YMCA Wall

Extensive rebuilding is needed along the boundary behind the YMCA. This wall needs to be maintained on a periodic basis in order to ensure that the stonework remains tight and can withstand the energetic activities of the adjacent playground and parking lot. Because the wall is not particularly aesthetic in its appearance, a gray medium strength mortar can be used for repointing joints and setting stones. High strength mortars should be not be used because they become so brittle that they cannot resist the seasonal movements of the wall without cracking, that is, the high strength is detrimental to the integrity of the wall and does not contribute to holding it together better.

Mound Tomb and Vault Structures

Issues

Receiving Tomb

The receiving tomb facing Oak Ridge Avenue is still used, primarily for storage. It consists of an underground vaulted area with an exposed front wall that is about 13' wide and 12' high. Access into the vault is through a metal door. There is a tapered retaining wall on each side of the front wall. The front wall and two tapered retaining walls are built of dry laid, roughly dressed grey granite units about 8 to 10" thick, 18" high and about 5' long. Based on the presence of brickwork on the back of the front wall parapet, the vault roof construction is probably a brick arch. Unless the brickwork is coated with felt and tar or a plaster parget, the mortar may be extensively deteriorated at the top of the arch. Even so, it may be in good condition below the top surfaces of the bricks. There are no signs of distress suggesting that there are is any extreme deterioration occurring in the vault construction.

The stonework of the front wall of the vault is intact and in excellent condition. However, the stonework of the retaining walls on each side has shifted horizontally and twisted out of alignment. At some units the tightly fitted vertical joints have become one inch in width. One unit has swivelled 5" out of position, leaving the adjacent joint 2" wide. It is likely that the worst movements have been caused by water flowing down the hillside and becoming channeled as it passes through the wall. Encroachment by 2 mature Sugar Maples is also impacting the tomb wing walls. The structural integrity of the retaining walls is also compromised by the erosion of the ground in front of the walls where the rubble stone foundations are exposed.

Nevertheless, the retaining walls do not lean over, an indication that the stonework is adequate to carry the weight of the earth against them. It is likely though that there are large and small stones behind the granite units. Classic "gravity" retaining walls have a battered or tapered back surface that undercuts the ground laid over and against the wall.

Ammidown Mausoleum

Located above the receiving tomb, this free standing grey granite family tomb with white marble tablets mounted on the outside was built in 1867. Architecturally, it is a small Greek Revival style temple with a variety of finishes that range from coarsely hammered granite to smooth, inscribed marble. The roof consists of six granite slabs with a ridge stone and decorative acroterion at each end. The stonework, laid in mortared joints, is in excellent condition. There is, however, some minor deterioration. It was noted that there are iron shims or spacers showing at the surface of some of the horizontal joints. It is possible that they have raised edges that restrain the stone units. These spacers are pitted from corrosion at the surface of the stone. The mausoleum is in excellent condition, but the mortar joints need minor repointing. The marble door was broken and has been patched. Earth has settled or eroded at the entrance step to such an extent that the foundation is exposed.

Wells Mausoleum

Another free standing vault or mausoleum in the south part of the cemetery, the Wells family tomb, was not extensively examined because it was outside the project area. It appears to be in relatively good condition but should have missing mortar carefully reapplied. The structure has bronze doors, vents and a rear window. The doors have graffiti and some advanced corrosion.

Recommendations

Receiving Tomb: The tomb itself is in good condition but the wing walls on both sides need to be taken down and rebuilt. The brickwork exposed at the tomb parapet should be repointed. In order to repair the retaining walls, the stone units should be numbered and dismantled. Some collapse or movement of the loose stones, if any, behind the wall should be expected if they are disturbed by the removal of the dressed stones. The existing foundation should be probed to determine its makeup. Is it a single course or two of loose, broken stones or fieldstones, or is it well laid and of significant depth? It does not necessarily have to be 4' deep, as it is presently, but it should be at least 2 to 3' deep. If the foundation is shallow and crude, it should be excavated and replaced with a 3 or 4' deep concrete foundation.

The stone units should be reset without mortar but should be pinned together, using two 3/4" diameter, 6" long stainless steel pins epoxied halfway into each upper unit and set halfway into grout filled oversized holes in the lower unit. If good stony and gravelly material is not present now, it should be placed behind the retaining wall in order to provide good drainage for water flowing down the hillside. A perimeter drain may also be necessary to channel water around the wall and to prevent it from flowing through the wall.

Ammidown Mausoleum: Deteriorated joints should be repointed with a medium strength mortar matching the original mortar in composition and color. The visible surfaces of the iron spacers should be cleaned and treated with a rust inhibitive coating having a color matching the mortar.



Family plot edging, steps and planters

Edging of Family Plots

Issues

Each of the 13 edged family plots in this part of the cemetery is surrounded with granite and some have associated granite steps and/or planters. Most of the edging is raised but two of them are set flush with the surrounding earth. Most of the edging is 6 to 8" wide, 12 to 24" deep and simply finished. Edging at the Sumner plot is 30" deep. Others are more detailed or have more elaborate finishes like the Sumner, Ammidown, Litchfield/Cheney and Norcross plots. Dowels or eyebolts holding the stones together were evident at the Harding and Litchfield/Cheney plots.

Settlement or erosion of the surrounding earth has exposed the foundation of Ammidown edging, one side of which is being held up with iron pipes. Steps at the Ammidown, Dresser, Hanson, Litchfield/Cheney, Morton, Page and Sumner plots have also moved out of alignment.

Many of family plot edging units are more or less intact, but a number of them have rotated, settled at one end, or have separated at the corners. Movements are caused by earth pressures between high and low grades and from saturated, freezing earth, ie., frost heaving. It is unlikely that many the edging stones are set on foundations other than a mat of loose field stones.

Recommendations

The family plot stone edging needs routine maintenance work including resetting the stones. In order to prevent untimely displacement in the future, the corners can be stapled with stainless steel "dogs" or epoxy coated pins. The ground under and behind any reset stone should be good draining material. That is, if the ground behind the edging is found to be saturated or heavy with organic material, that material should be removed and replaced with gravel or crushed stone before covering with lawn. Likewise, if the foundation under the edging is disturbed or contaminated with saturated earth, it should be rebuilt and packed with gravel or crushed stone.

BUILDINGS

Issues

Near the Oak Ridge Avenue entrance is a charming multilevel wood Victorian building used for maintenance purposes. Noted as a tool house in 1954, this structure may have originally served as a receiving or waiting building. It was not examined because it was outside the project area

Recommendations

Continue to maintain this structure.

FENCES AND GATES

Iron Fences and Gates

Issues

Main Street Entrance Gate and Fence: Chained and padlocked, this entrance is no longer used. The frame of the double leaf iron gates at this entrance is constructed with tubular steel and channel. The paint finish has failed and the metal is rusting. The gates are missing all but one of the winged arrow picket finials. Other elements are bent.

Oak Ridge Avenue Entrance Gate and Fence: This assembly consists of a green painted central double swing vehicular gate with single leaf pedestrian gates at the ends separated with an 8'-11.5" long section of fence. The north pedestrian gate is chained and welded closed. The overall assembly has 6 cast iron posts and spear headed picket fences and gates. Overall it is in poor to fair condition. The posts are made up of several cast iron pieces that snap or seat together to make up each decorative square post, base, tapering cap and finial. Damage from vehicle impact and general wear and tear have caused some of iron pieces to break or separate, such that the south vehicular gate post has been damaged and has welded repairs. It is also diagonally braced with a steel channel and bolts. The north pedestrian gate post is askew and the top is missing allowing water infiltration. Other post tops are loose or damaged. The fences are in generally good condition although a few of the spearheads are missing and some of the pickets are bent. There is also extensive corrosion and rust jacking where decorative bent bars on the gates scroll together and overlap at the bottom of the gate leaves and at the top center.



Oak Ridge Avenue entrance gate and fence

Recommendations

Main Street Entrance Gate and Fence: The 1878 iron gateway should be cleaned and the rust fully removed. It should then be coated with a modern polymeric coating that adheres well and prevents rust.

Oak Ridge Avenue Entrance Gate and Fence: There is no easy on site way to repair the posts and fences. All of the pieces should be dismantled, cleaned, reassembled and repainted. Broken or missing parts should be replicated. Specialty casting studios should replicate the pieces in iron or stainless steel so that black steel is not inadvertently mixed with the original iron. Mixing metals can lead to accelerated corrosion of one of them, the steel in this case, through galvanic action. Welding should not be used with cast iron.

Chain Link Fences and Gates

Issues

A 5' high rusted, but serviceable, galvanized steel chain link fence is located along the east edge.

Recommendations

No changes are recommended at this time.

Interior Fences and Gates at family Plots

Issues

In the portion of the cemetery that was examined, only the Dresser plot had evidence of former fencing with 3 granite posts that have center pins on the top that once served as a foundation for a fence.

Recommendations

If documentary evidence can be found concerning the appearance of these rails, consideration should be given to replacing them.

SITE AMENITIES

Signs

Issues

The historic entrance on Main Street has a bronze plaque at the gate with the date 1801, identifying the date the cemetery was established. A metal sign on the gate states "No Entry Permitted. Please Use Entrance at Oak Ridge. No Trespassing." Metal "No Parking" signs are located on each side of the gate.

A metal sign is secured to the Oak Ridge Avenue Gate stating "Open During Daylight Hours Only. No Trespassing after Hours, Subject to Arrest. Prohibited: Pets, Recreation Use, Alcohol, Unregistered Vehicles [ATVs]."

Recommendations

An identification sign with some historic background information should be provided near the Oak Ridge Avenue entrance. Some interpretive signs would enrich the experience of cemetery visitors.

Trash Receptacles and Seating

Issues

While one wire mesh trash receptacle was observed in the fall of 2000, none were seen in the spring of 2001. No benches were found in this part of the cemetery.

Recommendations

Consider eliminating trash receptacles from the oldest part of the cemetery. Do not add benches in this part of the cemetery.

UTILITIES

Drainage

Issues

No drainage structures were found in this part of the cemetery, although a catch basin is located immediately outside the Main Street entrance. All storm drainage occurs on the surface and flows from the high point to the edges of the site.

Recommendations

Do not add drainage structures as they do not appear to be necessary.

Water Supply

Issues

The cemetery has a water supply and some hose bibbs were observed.

Recommendations

No changes are recommended in regard to water supply.

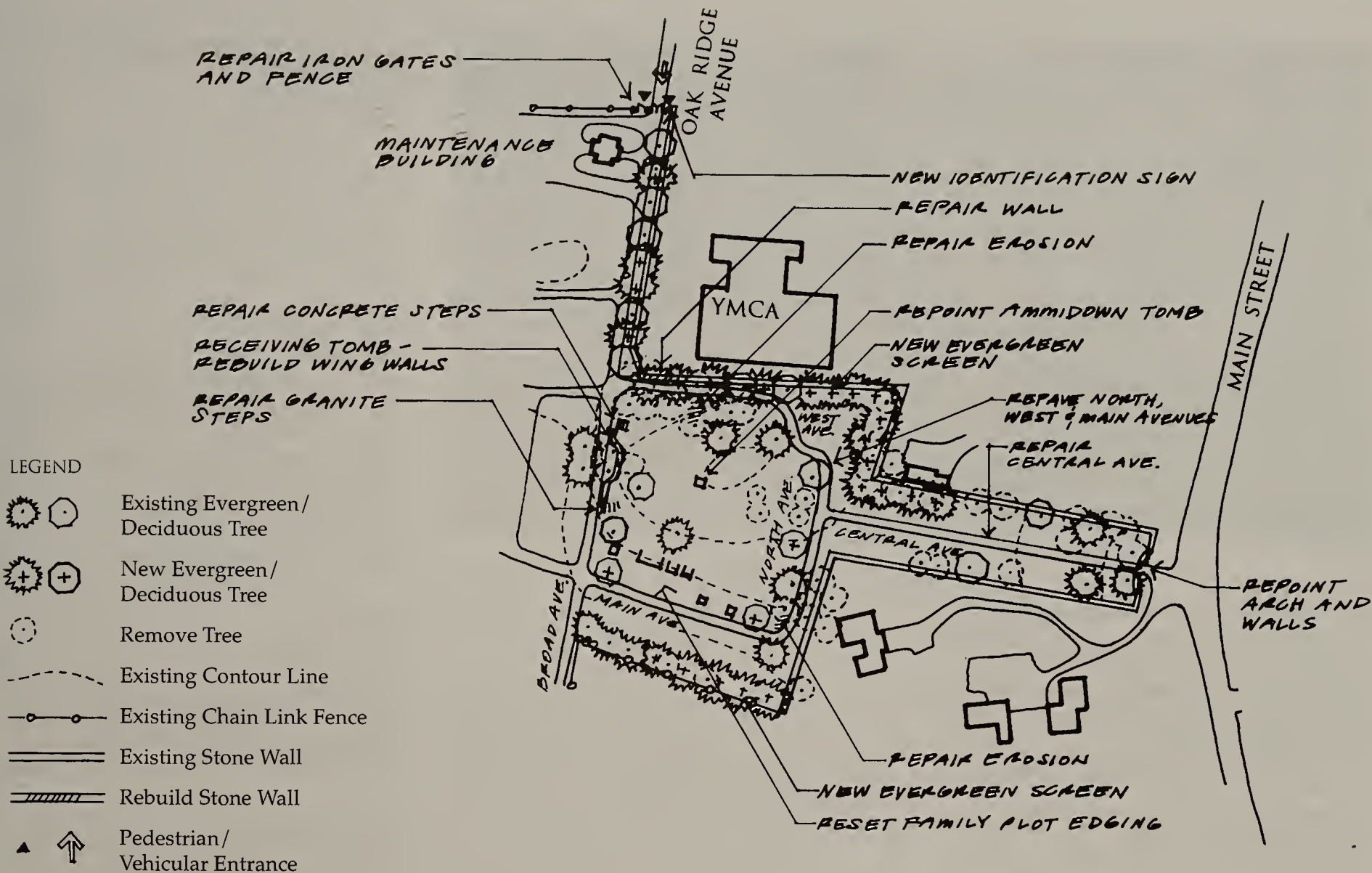
Lighting

Issues

No lights were seen inside the cemetery. There may be ambient light in some areas from adjacent street lights.

Recommendations

No additional lighting is recommended.



OAK RIDGE CEMETERY PRESERVATION PLAN SOUTHBRIDGE, MASSACHUSETTS

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
SUZANNE SPENCER-WOOD, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

NORTH
MAY 2001
1" = 200'

PRIORITIES

High Priority

- Trees with large cavities, leaning into the cemetery, drives or grave markers.
- Screen planting.
- Erosion and lawn repairs.
- Restore grave markers that present public safety hazards or are structurally unsound.
- Replace dowels in multipart stones that are visibly cracked or spalled.
- Conserve historically significant marble markers that are in danger of becoming illegible.
- Repair broken stones if the inscriptions are legible and at least 75% of the stone is available.
- Provide earth fill at the exposed foundations of monuments.
- Reset family plot edging on First Avenue.
- Provide identification sign at Oak Ridge Avenue entrance.

Medium Priority

- Trees with large cavities, leaning away from drives and grave markers and not located in the front area where vehicles may drive.
- Replace dowels in multipart stones with visible metal stains at the junction between stones.
- Clean legible markers.
- Pave West, North and Main Avenues.
- Repair Central Path.
- Repoint Main Street arch and walls.
- Rebuild perimeter walls.
- Repair receiving tomb and walls.
- Repair steps.
- Repair entry gates and fences.

Low Priority

- Trees with a small amount of dead wood and branches, and trees protected from the winds in close to the edge or other trees.
- Tree replacements.
- Reset markers that have shifted or are leaning.
- Reevaluate and conserve marble markers that are currently in satisfactory condition, as necessary.
- Reset remaining family plot edging.
- Repoint Ammidown mausoleum.
- Provide interpretive signs.

PRIORITIZED COST ESTIMATES

High Priority

Tree removals	\$20,800
Tree pruning	2,100
Tree support systems and fertilization	2,700
Screen planting	12,200
Erosion and lawn repairs	2,000
Earth fill at monument foundations	2,500
Reset family plot edging on 1st Ave.	3,300
Identification sign	<u>5,000</u>
	50,600

Medium Priority

Tree pruning	300
Tree support systems and fertilization	200
Pave West, North and Main Avenues	14,200
Repair Central Path	7,500
Repoint Main Street arch and walls	5,000
Rebuild perimeter walls	11,000
Repair receiving tomb and walls	18,000
Repair steps	2,000
Repair entry gates and fences	<u>6,000</u>
	64,200

Low Priority

Tree removals	4,400
Tree pruning	1,600
Tree replacements	1,900
Reset remaining family plot edging	4,200
Repoint Ammidown mausoleum	1,200
Interpretive signs	<u>10,000</u>
	23,300

Costs associated with grave marker work have not been included. Refer to the General Recommendations section for approximate costs of various types of repair.

National Register Status: Not Inventoried
 Current Management: Historical Commission
 Public Works Dept.
 Status: Inactive
 Condition: Poor



Pocknett Burial Ground

c 1800s

WILLIAM JONES, ROXANNA C. MYE AND POCKNETT BURIAL GROUNDS

MASHPEE, c. 1800s

These small wooded sites represent three of the eleven historic burial grounds in the town. All are family burial grounds from the 1800s, reputedly related to the Native American Wampanoag Indian culture that originally inhabited the area. Only Pocknett Burial Ground has visible grave markers. The Jones and Mye Burial Grounds do not. The Mye and Pocknett sites are very small at 0.03 and 0.08 acres respectively. The Jones site is comparatively large at 0.25 acres. The proposed Mashpee Historic District will include William Jones and Pocknett Burial Grounds which were active between 1800 and 1860.

ARCHAEOLOGY

Issues

William Jones Burial Ground

Commemorated on 10 April 1851 as a new burial ground, two people, Thomas H. and Rebecca Jones, were buried there that day. There is no visible evidence of fencing materials or depressions indicative of a fence line or mounds indicating buried stone walls. There is no surficial archaeological evidence to indicate the bounds of the original cemetery, or to define its internal configuration. There are no remnant archaeological features such as head or footstones, commemorative markers, paths, walkways, entranceways or decorative plantings.

Shallow depressions are visible on the northwestern portion of the site and they should be further protected until their origin can be investigated by archaeologists.

A comparison of historic and contemporary maps and reference to aerial photographs of the project area reveals that the original alignment of South Sandwich Road [Wakeby Road] has been altered and Route 130 [Main Street] has been widened. Early maps also show a woods road or cart path just beyond the project area to the east. It is possible that portions of the burial ground were impacted when the road beds were modified.



William Jones Burial Ground

1851

On the eastern margins of the site several borrow pits should not be confused with burials which would have been located to the west of the roadway. The old road bed was reportedly excavated some years ago to provide sand for the adjacent bog. Extensively disturbed, the site contains some highway debris including asphalt, sand and gravel. There is also disturbed earth on the burial ground side of the intersection with recent utility improvements.

Roxanna C. Mye Burial Ground

The earliest documentary reference to Roxanna C. Mye Burial Ground is a 1928 deed which reserved the right to own the old burying ground and a right of way from a 60 acre parcel transferred from Bion F. Reynolds to Edmund Wright. The precise location of the burying ground is not defined in the deed. Abutters are identified on an 1877 map of Mashpee with the location of the Reynolds parcel. Visual reference to that parcel suggests that the burial ground was located in the extreme northeast corner of the tract. Little additional information on the burial ground is available.

Today this tiny parcel is located on Highview Avenue between private homes in a residential subdivision. Several small depressions are visible and appear to be aligned east-west, the proper orientation for Christian burials. There are no visible head or footstones, walkways, paths, decorative plantings, fences or entrances.

Pocknett Burying Ground

This site is named for the Pocknett family of Mashpee Wampanoag Indians. A portion of the site is clearly defined and demarcated, and clearly visible from Meetinghouse Road. The cemetery is surrounded by dense woodlands on the other three sides and a well defined narrow dirt road to the Mashpee River on the south side.

There is little published information on the cemetery, although the Pocknett family is well documented in Mashpee history. Family members who live in the area confirm that their relatives are buried here. The burial ground contains sufficient room for 6 to 8 graves and additional burials are possible beyond the fenced area. Modest depressions, visible to the north, are consistent with deflated terrain associated with burials. There are no visible depressions beyond the fence to the south. There is a slight possibility that the burial ground extends beyond the fence to the east because of the level terrain, although there is no surficial archaeological evidence of graves in this position.

Recommendations

Each site represents a significant preservation challenge to the town with the Jones Burial Ground perhaps the most pressing because of impending intersection improvements bordering the property.

William Jones Burial Ground

Prior to any changes to the alignment of South Sandwich Road, archaeologists must identify the boundaries of the burial ground, determine the internal configuration of the burials and search for associated archaeological features. Property deeds, family genealogies, town histories, cemetery records, historic photographs and oral traditions may provide additional information.

Roxanna C. Mye Burial Ground

Mye Burial Ground's small size and location affords some protection from major developmental impacts. However, the site is threatened by gradual encroachment of neighboring lawns, landscape improvements and area children playing on the open ground. Because it is not visually demarcated or protected, with time its original function may be forgotten and the sacred ground used inappropriately. Furthermore, the property deed fails to define the extent of the burial ground, and it is possible that it originally encompassed a larger plot.

Comprehensive historical research may clarify the original dimensions and location of the burial ground. A complete chain of title back to the original land apportionment may indicate the precise location. Genealogical information on the Myes and their extended family could suggest likely interments. Following documentary research, subsurface excavations should be conducted to confirm whether the burial ground contains graves. The internal configuration of the graves should be established, as should the site's precise boundaries. Information collected from the subdivision contractor may indicate whether anomalous subsurface conditions or bones were encountered when the adjacent residences were constructed.



Roxanna C. Mye Burial Ground

c 1800s

Pocknett Burial Ground

If traffic on Meetinghouse Road increased substantially, or if the road is widened it will be necessary to further protect Pocknett Burial Ground. Future residential development in this open space could also impact unmarked burials located beyond the enclosure. It is imperative that sensitive zones around the burial ground are protected until it can be determined whether additional burials are located beyond the fenced area. Archaeologists should conduct subsurface testing to determine the precise boundaries of the cemetery and when the full extent of the burial ground is known it should be clearly demarcated and fenced. Cemetery custodians believe that ten individuals are buried in this site. Landscape and other maintenance should be limited to above ground procedures until the full extent of the cemetery is defined.

Concurrent with the archaeological investigations further documentary research may identify individuals who could be buried in the small plot. Genealogical research and death records may provide the names of close family members who died at the time the cemetery was in use. Oral traditions collected from Pocknett family members may provide clues to likely interments. Historical maps and atlases and town plot plans may indicate the original configuration.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

All three sites have reverted to woodland with lack of maintenance. William Jones Burial Ground is primarily Oak and Pine with some small Cherry and brier. Some of the trees have been topped and some are dead. There are potential views of the nearby bog to the northeast.

Roxanna C. Mye Burial Ground contains 2 large Pines [12-18" DBH], approximately 15 Oaks [about half of them are 6-8" DBH with the rest saplings], some small Cherry, 4 small American Holly and some low brier which is starting to intrude. Some of the older trees are damaged with one of them topped and another dead. There are potential views to Johns Pond.

The fenced area of Pocknett Burial Ground is surrounded by woods on three sides, mostly Oaks up to 8" DBH. A large Oak on the north side needs safety pruning as well as a large Pine on the south side. There are some small White Pine on the west side as well as some introduced Forsythia and variegated Euonymus on the east side of the fence.

Maintenance is currently provided by the Department of Public Works and Historical Commission volunteers who remove trash, cut grass and provide selective pruning.

Recommendations

All sites need extensive vegetative management with pruning and removals to open them up. All dead trees and dead wood should be removed as well as underbrush and particularly invasive brier. This work will also improve visibility at the difficult road intersection adjacent to William Jones Burial Ground.

Tree work should ideally be performed by equipment located off site. The vegetative understory should be cut to ground surface by hand held equipment. No vegetation should be pulled out of the ground. Roots should be treated to prevent regrowth.

Planting

Issues

All sites contain native material except Pocknett Burial Ground which has some limited introduced material as noted above.

Recommendations

Ornamental plantings in burial grounds of this age and style should be limited.

Volunteer Growth

Issues

In these wooded areas, most of the vegetation is considered volunteer growth.

Recommendations

Most of this volunteer growth, including understory, should be cut to ground level and the roots should be treated to prevent regrowth.

Lawns





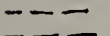

Issues

The ground surface of each site is covered with a thin layer of forest duff and leaf litter. Lawn development is limited to adjacent roadway right of ways.

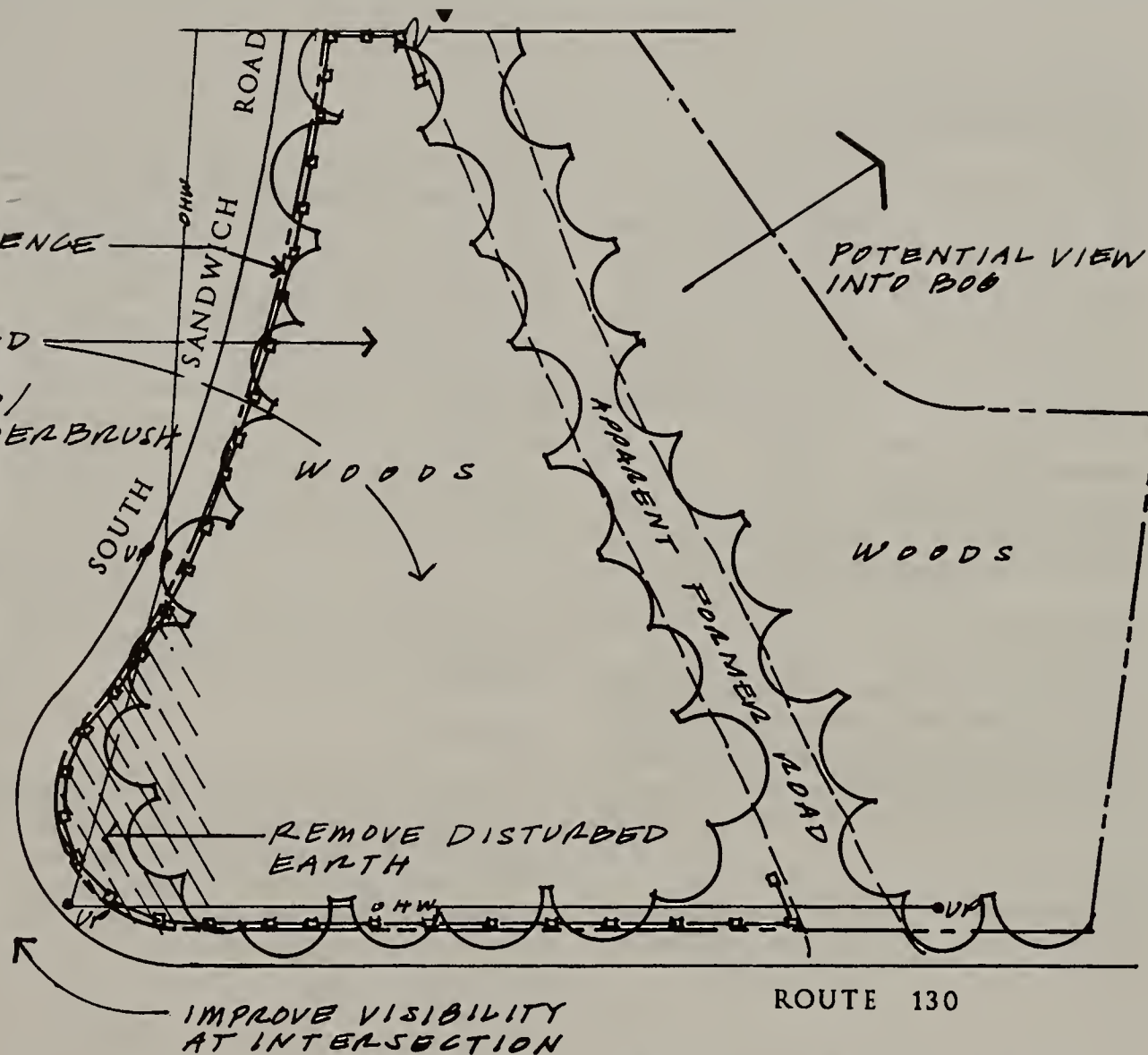
Recommendations

Once tree removals occur there will be sufficient light for lower level growth. Lawn or ground cover is recommended to protect against erosion. If this is not provided for, other taller understory material, including brier, will naturally develop. Care should be taken with renovations for either ground cover or grass particularly around trees to remain because tree roots are so close to the surface. Filling holes of decaying stumps and sunken graves, and cleaning the area of tree litter will facilitate the planting of grass or ground cover.

LEGEND

-  Existing Woods
-  Remove Disturbed Earth
-  New Wood Fence
-  Utility Pole
-  Existing Dirt Road
-  Vehicular/
Pedestrian Entrance

WILLIAM JONES
BURIAL GROUND



WILLIAM JONES, ROXANNA C. MYE AND POCKETT BURIAL GROUNDS PRESERVATION PLAN MASHPEE, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE



NORTH

NOVEMBER 1999
1" = 40'

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Access to each site occurs on adjacent roads. No sidewalks are evident. Parking occurs along the edge of roadways. While the ground surface material is not considered accessible at each site, there are no slope barriers for universal access at Mye and Pocknett Burial Grounds. The varied topography at Jones Burial Ground presents some slope barriers.

Recommendations

Because the full extent of archaeological resources is unknown at this time, universal access into each site is not recommended.

Vehicular Access

Issues

All three sites are adjacent to roadways but there is no defined vehicular access or space for visitor parking. There is unpaved parking on an adjacent parcel to the east of the Jones Burial ground, but access from that lot is difficult at best.

Recommendations

Do not improve vehicular access or parking until the full extent of archaeological resources is known.

Security

Issues

While all sites are in highly visible locations, they suffer from neglect because of questions regarding precise boundaries and extent of archaeological resources. The absence of grave markers may have reduced intentional vandalism, but the undefined boundaries expose each site to potential unintentional damage with disturbance of archaeological resources. A wire fabric fence separating neighboring properties has apparently been extended onto burial ground land at Mye Burial Ground. Intersection improvements are being contemplated adjacent to Jones Burial Ground.

Recommendations

Provide a boundary survey of each site and a visible definition of the property lines.

VANDALISM

Issues

Other than the broken headstones at Pocknett Burial Ground, no other evidence of vandalism was found. It is assumed that the lack of grave markers has meant that the sites are not recognizable as burial grounds and have not attracted attention to themselves.

Recommendations

Vandalism is not a significant problem and no changes are recommended.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

There are no formal or defined circulation systems inside any of the burial grounds.

Recommendations

No formal or defined circulation systems are recommended at this time.

Pavement Materials

Issues

There are no paved surfaces on any of the sites.

Recommendations

Surface materials should remain as is until visitation reaches the point where it is no longer practical to maintain this surface. At that time paved path systems should be considered.

GRAVE MARKERS

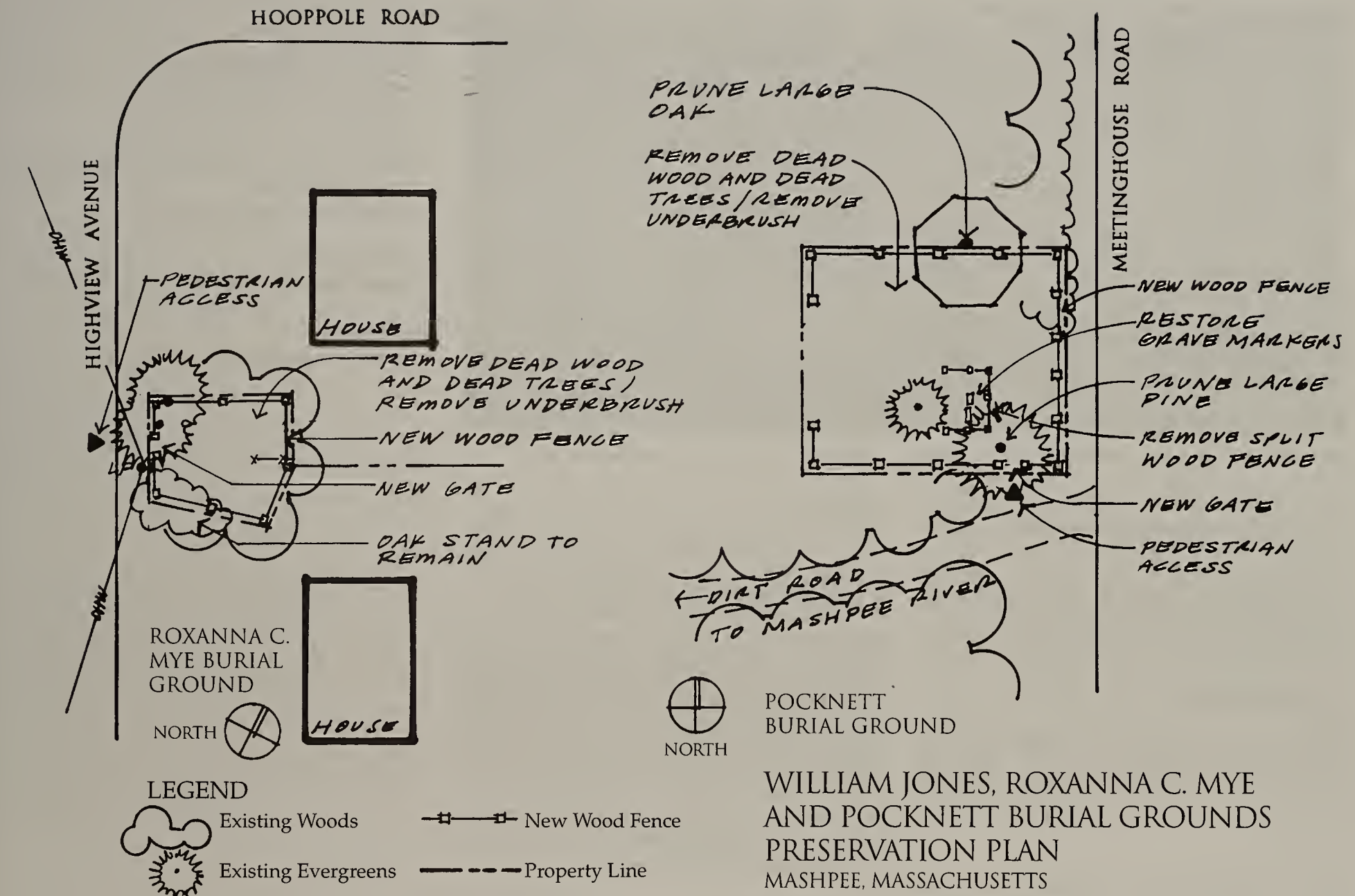
Headstones and Footstones

Issues

Only Pocknett Burial Ground has visible grave markers, two broken white marble markers and a marble footstone. The broken markers are propped up with wood frames. The Reliance S. Pocknett marker is fractured at the base with a horizontal break. The Emma F. Stevens marker has a horizontal break and two triangular fractured pieces suggesting that it was struck with a heavy object. With the initials E.F.S., the footstone appears undamaged. Both died in 1871.

William Jones Burial Ground: While there are no evident grave markers, the Mashpee Historical Commission has an inventory that identifies eight individuals buried here. Highway Department officials report that a headstone was removed from the site approximately thirty years ago. Although there are oral traditions that the original burials were moved, there is no documentary evidence to substantiate this.

Roxanna C. Mye Burial Ground: It is not known if there has been a burial here and none of the interments are known by name.



WILLIAM JONES, ROXANNA C. MYE AND POCKNETT BURIAL GROUNDS PRESERVATION PLAN MASHPEE, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
NOVEMBER 1999 SARA B. CHASE, PRESERVATION CONSULTANT
1" = 40' OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

Recommendations

Repair the broken grave markers at Pocknett Burial Ground and conduct archaeological investigations as previously noted.

FENCES AND GATES

Wood Fences

Issues

Pocknett Burial Ground is enclosed on three sides by approximately 60' of split rail wood fence that was installed c 1975. The west or rear of the burial ground is open along its entire length.

The other two sites do not have fenced enclosures although maintenance of a fence was noted in the 1852 deed of Jones Burial Ground.

Recommendations

After boundaries are defined, all three sites should be enclosed by protective fencing that would preferably have the character of a typical wood fence of c 1850 Mashpee. The fence would visually define the burial ground without impacting burials or other archaeological features associated with it. While a stone wall enclosure would have been acceptable in many communities, few were seen in this area.

SITE AMENITIES

Issues

None of the sites have identification, informational or interpretive signs. There are also no site amenities like trash receptacles or seating.

Recommendations

Add identification, informational and interpretive signs. Do not add trash receptacles or seating.

UTILITIES

Drainage

Issues

All sites drain on the surface and no drainage structures were found inside any of the sites. Soils are sandy and porous with little ability to retain water.

Recommendations

Improvements are not necessary and no changes are recommended.

Water Supply

Issues

No source of water was found inside any of the sites.

Recommendations

Do not add a source of water at this time.

Lighting

Issues

There are no light fixtures on the sites. Some ambient light may be available from the surrounding development and roadways.

Adjacent utility poles impact the visual quality of the experience and pole supports sometimes intrude onto the property potentially threatening historic resources. There are two utility poles on Route 130 edge and another on the South Sandwich Road edge of William Jones Burial Ground. Roxanna C. Mye Burial Ground also has an adjacent utility pole at the southeast margin of the site and is stabilized by an anchor located inside the burial ground.

Recommendations

Do not add light fixtures inside the burial grounds. Work with utility companies concerning utility pole and anchor support locations to protect historic resources.

PRIORITIES

High Priority

- Perimeter survey and boundary marking
- Archaeological investigations
- Vegetative removals and pruning
- Fencing
- Stone conservation including resetting and repair of markers
- Identification sign placement

Medium Priority

- Establishment of lawn or ground cover

Low Priority

- Informational and interpretive signs

National Register Status: Not Inventoried
Current Management: Cemetery Commission
Status: Inactive
Condition: Good



View south from interior of cemetery

RIVERSIDE CEMETERY

NORTH CHELMSFORD, c. 1841

Characterized as a sloping cemetery with a very high percentage of stone edged lots punctuated by scattered mature Oaks and Maples, Riverside Cemetery is located on the north side of Middlesex Street above the Merrimack River. The site is separated from the river by Boston and Maine railroad tracks. Commercial uses border the cemetery on the east and west edges, MAACO Auto Body Shop and Plumbers Edge Supply Co. respectively.

The east portion of the cemetery is characterized by numerous small stone curb edged family plots that form a series of terraces as the ground rises toward the rear. The ground rises about 20' to a crest at the back near the center of the property. Two mound tombs are situated near the top of the crest. The newer west portion of the cemetery has individual headstones and is relatively flat.

According to the "History of Chelmsford" by Rev. Wilson Waters, a Town committee was chosen to select a piece of ground for a burying place in the North part of the Town in 1841. The land was purchased for \$150 from Benjamin Blood and Samuel F. Wood "between North Chelmsford and Middlesex Village." The site expanded to 3.84 acres in 1890 with the purchase of land on the lower west side to create a long, narrow trapezoidal lot.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

Although the cemetery was created in the 1840s, it does not have the scale or landscape development of a typical early rural cemetery. The site is generally open with scattered mature Oaks in the center and east, Maples on the west side and lawns throughout.

The site generally slopes to the south with a high point in the center. One could overlook the Merrimack River, but the site slopes away from the river and volunteer growth creates visual separation. A propane tank, serving the railroad, has been sited on the north edge of the cemetery. It is historically and visually incompatible with this historic cemetery.

Recommendations

Maintain the current landscape character. Provide heavier planting along the east and west edges to screen incompatible uses. In addition screen the propane tank along the railroad tracks.

Planting

Issues

The cemetery contains 36 trees including 19 Maples [12 Red Maple - *Acer rubrum*, and 7 Sugar Maple - *Acer saccharum*], 15 Oaks [10 White Oak - *Quercus alba*, and 5 Black Oak - *Quercus velutina*], 1 American Elm [*Ulmus americana*] and 1 Black Birch [*Betula lenta*]. They are all large deciduous shade trees and most are fully mature. There are no indications of pest problems other than the Elm that appears to have died from Dutch Elm Disease.

Recommendations

Most of the trees [21] are in fairly good condition and should respond to pruning and fertilization, remaining an asset to the cemetery. However, 15 trees [42%] are recommended for removal. This includes 9 [75%] Red Maple, 2 [28%] Sugar Maple, 1 White Oak, 1 Black Oak, 1 American Elm and 1 Black Birch. Many have decay throughout their main stems that can lead to structural failure and damage to the historic resources of this cemetery.

Volunteer Growth

Issues

Volunteer growth has been kept under control for the most part with some invasive bittersweet at the northeast corner. Most volunteer growth is outside the cemetery along the east, north and west edges.

Recommendations

Remove all invasive Bittersweet and work with abutters on east side to remove Bittersweet on adjacent property.

Lawns

Issues

Lawns areas are generally in good condition. Some bare spots were apparent later in the year. The number of edged and raised plots increases maintenance requirements.

Recommendations

Topdress and seed bare spots. Consider using ground cover in raised plots to reduce intensive maintenance requirements.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

All access is obtained through 3 vehicular access points from Middlesex Street. There is about a 13'-6" clear opening at the center and west entrances with about 14' clear between posts. The east opening is slightly wider with about 15' clear.

Recommendations

Consider closing the central access point with a closed gate. Universal access should continue to rely on vehicular access routes.

Vehicular Access

Issues

The 3 points of vehicular access from Middlesex Street all have single vehicle widths. Only the east and west entrances are paved. Vehicular access for maintenance of the railroad tracks is provided at the northeast corner of the cemetery. It is a single lane unpaved route.

Recommendations

Once the site expanded to the west, the current central entrance became less important. Because this entrance is not paved and rarely used, it should be gated closed with appropriate gates to discourage vehicular use of this entrance.

Security

Issues

The site has no security. Only the west side is fenced and most of that fence is privately owned.

Recommendations

Because vandalism does not appear to be an issue, additional security measures are not recommended at this time.

VANDALISM

Issues

No evidence of vandalism was found.

Recommendations

No changes are recommended at this time.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

The vehicular circulation system consists of 3 entrances connecting to a paved single lane perimeter loop drive with one paved cross connection on the west side. There are 3 other internal unpaved [lawn] cross connections. Paved widths vary with a 10' width typical on the south side. The only named drive is "Central Avenue." Most of the southernmost drive is heavily deteriorated and it is located perilously close to the top of the retaining wall along Middlesex Street. There is no separate pedestrian circulation system.

Recommendations

Consideration should be given to eliminating most of the southernmost drive and closing the central entrance. The southernmost drive should be returned to lawn as it most likely was initially. The remaining paved surfaces are sufficient for vehicular access into the cemetery.

Road Edging

Issues

While there is no road edging or curbing, there is a galvanized metal guard rail along a portion of the north drive, adjacent to a very steep slope down to the railroad tracks.

Recommendations

Do not add road edging. Although necessary, the character of the guard rail is incompatible with the nature of this historic cemetery. It should be painted to reduce its visual intrusion.

Pavement Materials

Issues

The drives are constructed of bituminous concrete and most are in good condition. The drive on the south side adjacent to Middlesex Street is in poor condition. The bituminous surface is breaking up and reverting to gravel/lawn. The central access point is not paved. All walks are lawn.

Recommendations

Refer to recommendations for circulation systems.

GRAVE MARKERS

Headstones and Footstones

Issues

Most of the grave markers in the cemetery are granite with some marble. On the more recent west side, most of the markers are granite. While most markers are in good condition, a few are leaning or have been toppled. At least two marble markers have had repairs with mortar.

There is a section for paupers in the northwest corner of the original section of the cemetery. No markers are evident in that section. It is thought that there may be some grave sites beneath the drive in that area. It was also reported that not all of the markers were put back in precisely the correct location after the reported flooding of the west side of the site during the 1938 hurricane. They are, however, reportedly close to the original locations.

With railroad tracks immediately adjacent to the cemetery, it has been reported that one can feel vibrations in the monuments when freight trains pass.

Recommendations

Reset, repair and clean grave markers based on the prioritized recommendations noted herein.

Monuments

Issues

There are several larger monuments, mostly related to the high point of the cemetery. Settlement of the earth is evident at the bases of a number of them, exposing the foundations.

Recommendations

Provide earth fill at the exposed foundations of monuments.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

The front of the cemetery is raised above Middlesex Street by a stone retaining wall with three stone pillared entrances. The main wall is generally about 3' high, typically ranging between 2 and 4' with an area about 4' high near the east end. Width varies between 15 and 20". The wall consists of large, random sized, roughly cut granite stones laid in dry beds. There is little displacement of individual stone units and the wall is generally plumb although it is a bit wavy along its length. It appears that portions of the top courses of the stonework have been reset relatively recently but with a modern hard mortar and without any particular skill. These top courses may actually have been added to the original wall in order to raise its height for a portion of its length.

Mortar joints are generally intact but with a variety of cracks, looseness and gaps at the stone edges that are common with stonework construction exposed to outdoor temperature variations. At various locations along the length of the wall, the mortar is missing and the joints between stone units are very wide. These discontinuities occur at telephone poles, indicating that the wall may have been dismantled and reset without mortar when the poles were installed.

Short retaining walls return into the cemetery at the central and west entrances. The wall at the east end is about 15" wide by 18" high. It returns along the east side about half way down the property line. The wall at the west end is free standing, about 20" wide by 22" high.

Overall the Middlesex Street wall appears vertical and solid with only one area of disruption toward the east end, west of the receiving tomb. Construction of the top of the wall east of that is different than the majority of the wall with smaller pieces.

The retaining wall is punctuated by three entrances. Two are bounded by piers made up of small, cut stone units with a uniform "rock-faced" finish and raised mortar joints. The piers are in good condition except for fine hairline vertical and horizontal cracks present between the mortar and the edges or arrises of the stones. At this time, there has been no loss of mortar or displacement of the stones. However, the cracks allow moisture to infiltrate into the interior of the piers. Eventually, trapped, freezing moisture can create pressures that will cause the mortar to disintegrate and will displace stone units. It was noted that there is no "rust-jacking" disruption where iron gate hinges are embedded.

Two built up coursed and mortared cut granite posts, 28" square and 7' high, with cap stones, frame the west entrance. An inset stone on one post identifies the cemetery as "Riverside." There are 2 iron hinge pins on each post, indicating that gates once hung there. Some joint cracking is related to the hinge pins. Some repointing has been done on the west post. It does not match the original mortar in color and the application appears hurried. The east pier is leaning.

The center entrance is of the same construction as the west entrance. There is some mortar separation on the east post. Iron rings were found at each side of the central entrance [7 to the east and 6 to the west] at the top of the wall. More may exist as portions of the top of the wall are buried. It is assumed that they were used for tethering horses outside the entrance.

The east entrance appears to be of more recent construction with new piers of solid granite and separate cap stones. The posts are 24" square with a split or rock face finish. Cap stones have a honed finish. The cap stone on the west post is twisted such that it is not square with the post. These piers appear to be in good condition.

Recommendations

The retaining wall needs routine maintenance work. It should be repointed where mortar is missing, heavily cracked or loose.

The stone pillars at the west and center entrances need to be watched and maintained if they begin to deteriorate. Reset the west cap stone at the east entrance.

Mound Tomb and Vault Structures

Issues

There are three mound tombs, one facing Middlesex Street and two near the crest of the cemetery. The tomb at the east end of the site facing Middlesex Street was originally a temporary receiving tomb and is no longer used. It extends under the internal cemetery drive. The tomb appears in good condition. It has a granite facade and an iron door. The bottom of the door is buried, which may have been caused by street improvements. The door is rusted and has a horizontal crack.

The two tombs at the top of the crest are also in good condition. However, the earth embankments covering the vaults are steeper than the natural angle for earth stability. As a result, some of the ground has eroded [creeping or slumping downward] behind the facade stones exposing the top of the vault. Based on a glimpse of the end of a stone revealed by erosion, it appears that the vault roofs are flat slabs of stone. The facades for both tombs are intact, without any displacement or tilting.

The 1847 R. V. Howard tomb also has a granite facade with an iron door. Some corrosion is evident on the black door. There is also earth fill at the base of the door. The nearby S. F. Wood tomb has a granite facade with an obelisk at the top. The door has been sealed with a granite slab inscribed with names. The tomb has two bronze pins or "dogs" that staple the lintel stone to the first vault slab. This plot also has an iron fence around it.

Recommendations

The mound tombs are in good condition and need no work except for restoring the earth mounds to correct erosion and restore the vegetative cover. The soil at the base of the Howard tomb door should be removed to provide proper drainage.

Edging of Family Plots

Issues

Over 50%, more than 100, of the family plots in the old part of the cemetery are edged with granite and some have associated granite steps. This may have been due in part to the fact that Chelmsford had significant granite quarry operations. One edge stone was measured at 16'-10" long by 8" wide by at least 24" deep.

Most of them are more or less intact, but there are several curb and post units that have rotated, settled at one end, or have separated at the corners. Movements are caused by earth pressures between high and low grades and from saturated, freezing earth, ie., frost heaving. It is unlikely that the curbstones are set on foundations other than a mat of loose field stones.

Iron rods holding the stones together were evident at one of the plots. Settlement or erosion of the surrounding earth has exposed the foundation of several and steps at some have also moved out of alignment. Erosion and sedimentation has also covered the tops of some edging.

Recommendations

The family plot stone edging needs routine maintenance work including resetting the stones. In order to prevent untimely displacement in the future, the corners can be stapled with stainless steel "dogs" or epoxy coated pins. The ground under and behind any reset stone should be good draining material. That is, if the ground behind the curb is found to be saturated or heavy with organic material, that material should be removed and replaced with gravel or crushed stone before covering with lawn. Likewise, if the foundation under the curb is disturbed or contaminated with saturated earth, it should be rebuilt and packed with gravel or crushed stone.

FENCES AND GATES

Iron Fences and Gates

Issues

The former gates at center and west entrances are missing, but the iron hinge pins remain. It is unknown at this time what materials the gates were constructed of.

Recommendations

Based upon documentary evidence that may be found, replicate the gate at the central entrance and set it in a closed position to indicate that this entrance should no longer be used.

The gate at the west entrance could also be replicated and set in an open position.

Wood Fences and Gates

Issues

An undated property line drawing noted that a picket fence lined the west edge. It was reported that this wood picket fence was removed in the early to mid 1990s and replaced with chain link because it was in poor condition.

Recommendations

Even though an opaque boundary fence would be somewhat beneficial given the nature of the operations on abutting properties, it is unlikely that it would be high enough to provide sufficient screening. Do not replicate the wood fence because of the high ongoing maintenance costs.

Chain Link Fences and Gates

Issues

The west edge of the cemetery has two chain link fence expressions, one public and one private. The southern part is town owned. It is 4' high and the south end has vehicular damage. The northern part is privately owned. It is 6' high with barbed wire at the top. Both fences are in good condition except for the noted vehicular damage.

The east edge of the cemetery has the remains of a wire fence with an end post and remnants of woven wire fabric.

There is no fence across the back or north property line except for a chain link enclosure of a propane tank that serves the railroad. This land is leased to the railroad for a nominal fee.

Recommendations

Repair the section of fence that has vehicular damage on the west edge. Replace the fence along the east edge with vinyl coated chain link to define the edge of the cemetery.



Detail of Oak leaf/acorn motif on iron fence at the Wood family plot

Interior Fences and Gates at Family Plots

Issues

Only one plot retains its fencing and one other retains its iron chains. There is evidence that others once existed.

The S. F. Wood tomb plot is surrounded by a black painted iron picket fence with an oak leaf/acorn motif at the top of the rails. The gate is missing. The fence is supported by 9 iron support posts on granite foundations with some intermediate granite support blocks. The iron picket fence is in good condition, but the paint finish is starting to fail with some rust evident. Most of the original snap together joints are intact, although a few have broken and have been welded together.

The Byam plot has 6 granite posts with a double iron [coil?] chain. Most of the chain and iron hooks are intact but rusting. Two of the chains are missing, presumably to facilitate maintenance access. One chain is not attached. Most of the granite posts are leaning.

Recommendations

Because this type of work is a disappearing resource, restore both plot enclosures.

SITE AMENITIES

Signs

Issues

The cemetery has identification signs at each entrance with "Riverside" cut in relief at the center and west stone entrance piers and "Riverside Cemetery" cut in relief at the east stone entrance piers. Small, free standing, painted wood "No dogs allowed in cemetery" signs are placed at the east and west entrances.

Recommendations

A sign with some historic background information would be beneficial.

Trash Receptacles and Seating

Issues

White plastic trash receptacles were observed on the west side of the cemetery in October, but they had been removed in December. No seating is provided.

Recommendations

Because the cemetery is still visited on a regular basis, trash receptacles are beneficial. Receptacles should be more visually compatible with the cemetery and placed near the east and west entrances so that they do not detract from the experience of the cemetery.

UTILITIES

Drainage

Issues

The entire site slopes toward Middlesex Street and all surface drainage is collected in the street. During the hurricane of 1938 there was some reported flooding of the western portion of the site. The 1980 Flood Boundary and Floodway Map by National Flood Insurance Program indicates that the western portion of the site [most of the area west of Tobin Avenue] is within the 500 year flood zone.

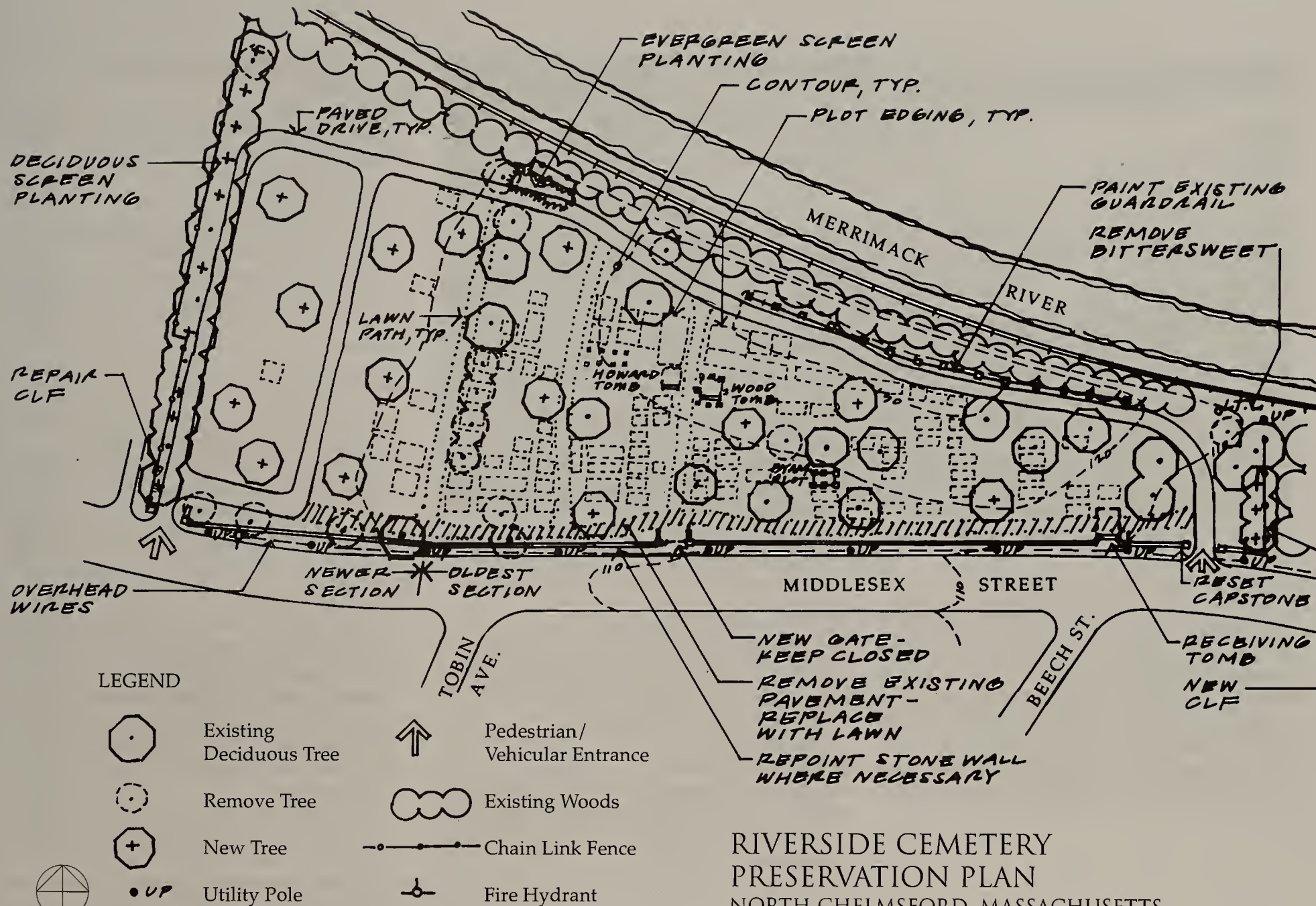
Recommendations

No changes are recommended.

Water Supply

Issues

Hose bibbs are provided throughout the cemetery. A fire hydrant is also located near the west end on Middlesex Street.



RIVERSIDE CEMETERY PRESERVATION PLAN NORTH CHELMSFORD, MASSACHUSETTS

Recommendations

No additional water supply is recommended.

Lighting

Issues

The cemetery side of Middlesex Street is lined with wood utility poles with overhead wires. There may be some ambient light from street lights mounted on those poles.

Recommendations

No additional lighting is recommended.

PRIORITIES

High Priority

- Trees with large cavities, leaning into cemetery, drives or grave markers.
- Removal of all invasive Bittersweet.
- Restoration of earth at mound tombs.
- Soil removal at base of Howard tomb door.
- Earth fill at monument and edging exposed foundations.
- Reset stones at family plot edging.
- Restore grave markers that present public safety hazards or are structurally unsound.
- Dowel replacement in multipart stones that are visibly cracked or spalled.
- Conservation of historically significant marble markers in danger of becoming illegible.
- Slate marker resetting and repairs.
- Broken stone repairs if the inscriptions are legible and at least 75% of the stone is available.

Medium Priority

- Trees with large cavities, leaning away from drives and grave markers, and not located in the front area where vehicles may drive.
- Tree replacements.
- Lawn repairs.
- Repoint Middlesex Street retaining wall and reset west cap stone at east entrance.
- Chain link fence repair on the west edge.
- New chain link fence along the east edge.
- Interior fence and gate restoration at Wood and Byam family plots.
- Dowel replacement in multipart stones with visible metal stains at the junction between stones.
- Cleaning legible markers.

Low Priority

- Trees with a small amount of dead wood and branches, and trees protected from the winds in close to the edge or other trees.
- Tree replacements.
- Screen planting along east and west edges.
- Screen planting at propane tank.
- Ground cover in raised plots.
- Change the southern most drive to lawn.
- Reset other stones at family plot edging.
- Replicate gate at central entrance.
- Trash receptacle replacement.
- Paint guard rail.
- Informational and interpretive signs.
- Reset markers that have shifted or are leaning.
- Reevaluate and conserve marble markers that are currently in satisfactory condition, as necessary.

PRIORITIZED COST ESTIMATES

High Priority

Tree removals	\$8,000
Tree pruning and support systems	3,000
Tree fertilization	1,000
Tree replacements	8,000
Remove Bittersweet	1,000
Ground cover in raised plot [test area]	1,000
Restore earth at mound tombs	1,000
Earth fill at monument/edging fdns.	1,000
Reset family plot edging	<u>15,000</u>
	39,000

Medium Priority

Tree removals	500
Tree pruning	500
Lawn repairs	1,000
Repoint wall along Middlesex Street and reset cap stone at east entrance	12,500
Repair west chain link fence	1,000
New east chain link fence	2,500
Restore family plot fences	<u>5,000</u>
	23,000

Low Priority

Tree removals	1,000
Tree pruning	3,000
Screen planting along edges	5,000
Screen planting at propane tank	3,000
Change southernmost drive to lawn	13,000
Ground cover in raised plots	44,000
Reset other stones at plot edging	21,000
Replicate gate at central entrance	20,000
Paint guard rail	3,000
Informational & interpretive signs	<u>5,000</u>
	118,000

Costs associated with grave marker work has not been included. Refer to the General Recommendations section for approximate costs of various types of repair.

National Register Status: *Inventoried,
Recommended Eligible*
Current Management: *Cemetery Commission*
Status: *Active*
Condition: *Good*



View of Long Beach

GREENLAWN CEMETERY

NAHANT, 1858

Set on the slope of what was once called Sunset Hill, this beautiful 5.6 acre site on the western end of Greater Nahant on the Nahant peninsula overlooks Lynn Bay and Long Beach. Developed as a burial place for Nahant's residents, the cemetery is still active and well maintained. It has leveled lawn terraces and a crushed stone drive and paths.

In 1853, the year Nahant was incorporated as a town, a committee was appointed to find a town cemetery. The following year they were empowered to purchase a "suitable piece of ground" for a cemetery. In 1856 the committee reported the purchase of about two acres from the heirs of Thomas A. Perkins. The parcel was set behind two private lots that fronted Nahant Road.

A street was laid out from Nahant Road to Greenlawn Cemetery in 1858 and improvements began. The committee, with John Q. Hammond as chair, laid out the cemetery into lots and pathways. The town provided money for graveled paths, cast iron gates on granite posts, a fence and ornamental tree plantings. Work was completed in 1859, the year of the formal dedication. Almost at once the forefathers of the town were moved from the old burial place near Pleasant Street, "which was practically private" in the early days, to the new cemetery. With them came the few pre-1850 slate grave markers found in the cemetery.

The land area of the cemetery expanded in 1879 with the incorporation of a town lot at northwest, in 1908 with a 100' strip of land to the north and in 1918 to Nahant Road. About that time the town moved the Police Station across the street to its present location. A small parcel was added to the cemetery at the northeast corner along Nahant Road up to High Street in 1928.

Between 1918 and 1920 the generosity of Nahant's citizens focused on the cemetery with three significant gifts: Ellingwood Chapel, Francis H. Johnson Memorial Gateway and Louisa Beal Memorial Gateway. In 1918 Mrs. Luther S. Johnson offered to build a cemetery chapel, carrying out the intentions of her late husband. The granite Norman Gothic Revival Ellingwood Chapel was designed by Cram and Ferguson. Construction began in 1919 and was completed and the building dedicated in 1920. Cram and Ferguson also designed the walls and gates on Nahant Road as part of the chapel plan as well as tree plantings and pathways. The perimeter stone walls as shown on the Cram and Ferguson plan were completed in stages between 1919 and 1940.

In 1919 Mrs. Francis H. Johnson gave the town the gateway on Nahant Road in memory of her husband. The granite gateway with a Norman arch and stone benches at each side of the entry has wrought iron gates with a spear pattern. Mrs. James H. [Louisa] Beal also donated funds to build the English Gothic Revival wood and stone gateway and fence at southeast corner, or old end of the cemetery on High Street. It is a dark green painted heavy wood rail fence with carved posts.

The oldest area of the cemetery is roughly the southern third and includes the 1866 Soldiers Monument honoring Civil War dead. Most of the cemetery's few marble markers are found in this area as well as a number of modestly sized family obelisks. It is unified in a linear design of straight walkways connecting small oval green spaces where the principal monuments have been placed. The north section of the cemetery is open with grave markers set flush with the ground.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

Although this cemetery was established during the rural cemetery movement, the typical lush planting, curvilinear paths and natural topographic features are absent. The only characteristic feature is the wooded rocky slope on the east side near the receiving tomb. The topography of the older southern section was apparently leveled. Influenced by the Memorial Park cemetery movement, the more recent north side is terraced with an open lawn character and flush grave markers.

Notations of the planting of trees and shrubs are found c. 1910 by Thomas Roland, an English gardener, trustee of the Massachusetts Horticultural Society and former President of the Society of American Florists. When Thomas P. O'Connor was the gardener in 1928, the town expressed pride in the cemetery because of its desirable location, and shrub and tree plantings.

A 1931 plan by Bradford and Weed indicates Maple trees along Nahant Road with space reserved for Elms and shrubs in an open space where the northeast wall now exists. The Maples must have been removed at some point because smaller scaled Crabapples and Cherries now occupy that location. The area west of Lawn Street is all Crabapples, while the area east of Lawn Street is predominantly Cherries with some Crabapples mixed in. Large Lindens line Lawn Street and the embankment separating the north part of the site from the rest of the cemetery. The large old Pines associated with the chapel provide an appropriate character for a "rural" seaside chapel.

Recommendations

The north half of the site should remain simply treated and cognizant of the ocean views. The older south half of the property would benefit from planned planting program that emphasizes planting treatments of rural cemetery movement. The Pine planting adjacent to the chapel should be reinforced.

Planting

Issues

The cemetery contains over 100 trees, not including wooded and volunteer areas. About 90% of the tree cover is deciduous and 10% evergreen. Maples, the most predominant tree species, account for about 1/3 of the total. Most of these are volunteer, located primarily along the southern boundary. Lindens were purposefully planted and comprise about 20% of the total. Other tree species include Sycamore Maple, Oak, Cherry, Crabapple, Pear, White Pine, Cedar, Blue Spruce and Japanese Black Pine. Shrubs include Azalea, Rhododendron, Rose, Forsythia, Running Euonymus, Juniper, Yew, Falsecypress and Arborvitae.

The Crabapples and Cherries are aging and will soon reach the end of their useful lives. Some sucker growth is evident at the Pears indicating that they have undergone some stress. Many trees exhibited evidence of recent pruning, another indication of the care that the cemetery is given.

Recommendations

Replacements for Crabapples and Cherries along Nahant Road should be considered. While the low scale of these trees allows views over them, larger scale trees like the Maples of the Bradford and Weed plan would direct views toward Long Beach.

Volunteer Growth

Issues

Most of the volunteer growth is at the west end in the apparent expansion area, and to a lesser degree along the south boundary and High Street edge. Species include Maple, Black Cherry and Sumac.

Recommendations

Remove all volunteer growth, particularly where it conflicts with perimeter fencing and walls.

Lawns

Issues

Lawns are generally in good condition with moss present in a few locations.

Recommendations

Restore deficient lawn areas.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

There is one pedestrian point of access, not including open drive access points which are also used by pedestrians. A pedestrian entrance at the southeast corner from High Street at the Louisa Beal Memorial Gateway has a 6'-5" wide opening. Slopes related to the entrance are universally accessible, but surface materials are not.

Recommendations

No changes are recommended for pedestrian access. Universal access should continue to rely of vehicular access routes.



Ellingwood Chapel

Vehicular Access

Issues

There are two points of vehicular access from Nahant Road. The main entrance through the Francis H. Johnson Memorial Gateway has a 12' wide clearance. A secondary entrance further east has an 11' wide opening and appears to have more of a service function than a visitor function. With no defined parking areas, parking occurs on or along the drive inside the cemetery or on public streets outside the cemetery.

Recommendations

This system appears sufficient for the visitation requirements and no changes are recommended.

Security

Issues

The site is not secured to prevent unauthorized vehicular or pedestrian access. While the main vehicular entrance has iron gates, the secondary entrance has eyebolts in the stone wall for a chain, but no chain is present. The High Street pedestrian entrance has a wood gate.

Recommendations

Security does not appear to be an issue in this burial ground and no changes are recommended.

VANDALISM

Issues

There is little evidence of vandalism. The presence and proximity of the police station as well as some residential development may have had much to do with the limited vandalism.

Recommendations

Vandalism is not a significant problem and no changes are recommended at this time.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

Lawn Street, the single two lane drive in from the main entrance on Nahant Road, passes by the chapel entrance and terminates in a cul de sac at the WWII Memorial. The remainder and majority of the circulation system is a rectangular grid of pathways radiating from the drive in the southern 2/3 of the cemetery. With a width of 3' to 4', paths extending from the drive are generally too narrow for vehicles. The main path extending east and west from the cul de sac is 8' to 10' wide with the east path punctuated by two oval spaces that contain two significant war memorials. Paths extending toward the south edge typically dead end. There is an anomalous curved path section at the southwest corner.

Recommendations

No changes to the circulation system are recommended except for consideration of changing the curved path section to correspond with the dominant path system, provided the change does not conflict with historic resources.

Steps

Issues

A set of wood railroad tie steps north and east of the chapel traverses the steep embankment with 7 risers and a tubular steel center rail.

Recommendations

The material and treatment of the steps and handrail are out of character with the overall development of the property. If steps are deemed necessary, they should be made of stone to compliment the character of the chapel and perimeter stone walls. Handrails should have more of the character of the iron work associated with the chapel or Johnson gate.

Pavement Materials

Issues

Grey crushed stone is used for both drive and walk surfacing.

Recommendations

The selected material is very much in character with the historic nature and important visual features of the cemetery. No changes are recommended.

GRAVE MARKERS

Headstones and Footstones

Issues

The collection of markers is primarily granite with most of the older 19th century markers being marble. There are also some limestone and 2 pink quartz markers. In the newer section, inscribed granite plaques are set flush in the lawn. Marble surfaces exhibit a range of erosion, as would be expected for century old markers in a seaside location. All the upright stones are subjected to vibrant yellow-orange lichen populations. At least 6 of the marble markers have toppled or are leaning significantly as well as 1 large leaning granite marker. A few markers need to be reset on their bases and 2 of the marble markers are cracked.

Recommendations

Toppled and leaning marble markers should be reset as a first priority. Metal pins should be replaced with non-corroding attachments, either nylon, stainless steel, or aluminum, set in lead. The joint between the base stone and the inscribed stone should be filled with wedge lead strips, available from monument dealers, and tapped in place. Under no circumstances should caulk be used in resetting two part stones.

Cleaning is a second priority for the stones at Greenlawn. This work should be done under the supervision and instruction of a stone conservator. Unstable or sugaring marble surfaces should not be cleaned or otherwise treated. Biological growths on top of stable stone surfaces should be carefully removed with dry brushing during dormant seasons. Stubborn growths may be carefully removed with wooden or plastic scrapers. After brushing and/or scraping, a biocide solution may be brush applied to retard recolonization and to remove exceedingly stubborn growths. A few of the more legible marble stones should be conserved to reduce the impacts of acid rain.

Monuments

Issues

There are three significant monuments. The 1866 Civil War Soldiers Monument is a white marble obelisk set on a square granite base and capped with a carved marble urn. The 1920/21 American Legion Monument commemorating Nahant's WWI dead is a bronze memorial tablet set on a large ovoid boulder from the town shore. The gray granite 1951 Veterans' Memorial recognizes WWII, Korean and Viet Nam war veterans.

Recommendations

The marble Civil War Soldiers Monument should be conserved to protect against further deterioration.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

Nahant Road wall: The 1919 Francis H. Johnson Memorial Gateway structure on Nahant Road is undergoing renovation. A 3' high rubble stone wall along Nahant Road was recently repointed. On the cemetery side the wall varies in height from 3' to 5'. Settlement of the grade on the inside of the wall east of the main entrance has exposed the top of the wall foundation which has a different stone character.

Kennedy Court wall: Constructed with large stones and heavily chinked, a few stones have fallen out of place. The top of the wall has been partially parged, indicating that there may have been stability problems at some point in the past. Regrading and filling were taking place above the wall, placing heavier loads on wall.

Recommendations

Provide earth fill to cover exposed stone rubble foundation on part of the Nahant Road wall to prevent undermining and destabilization. Because the Kennedy Court wall may not be designed to withstand the additional loading, it should be reviewed by a structural engineer. If the wall is found adequate, reset the fallen stones.

Mound Tomb and Vault Structures

Issues

Built into the rocky hillside in the southeast corner of the site in 1856, the receiving tomb is constructed with randomly sized, rough hewn granite stones and heavy mortar joints. The light gray painted iron door did not appear to be locked.

Recommendations

The iron door should be painted black which is a historically more appropriate color and the door should be locked for public safety reasons.

Edging of Family Plots

Issues

One family plot has granite edging and it is in good condition.

Recommendations

No improvements are recommended.

BUILDINGS

Issues

The magnificent Chapel was not examined because it is beyond the scope of this undertaking. Nor was the small stone tool house that was designed to match the chapel. Set into the eastern side of the hill, the latter was built with random sized, rough hewn granite quarried in Nahant, and laid with thick white mortar joints. The building has cast stone trim and a slate roof.

Recommendations

No recommendations are offered.



Louisa Beal Memorial Gateway

FENCES AND GATES

Iron Fences and Gates

Issues

The wrought iron entrance gate at the Johnson Memorial Gateway has been reset, off the stone gate structure onto tubular steel support posts. It is assumed that this work is part of the overall gate restoration project that is underway.

Recommendations

No recommendations are offered.

Chain Link Fences

Issues

The southern border is defined with a 5' high chain link fence. Although rusted, it appears stable. With no horizontal rails and only a tension wire at the top, the top of the fence is slightly bent over at a point between the 1866 and WWII memorials, suggesting that it has been climbed over.

Recommendations

Consider replacing the fence using a vinyl coated fabric in the next ten years.

Wood Fences

Issues

The Louisa Beal Memorial Gateway and fence along the High Street side consists of a unique wood fence that is relatively open with 2' square stone masonry posts at the ends and at the gate. The latter posts support a slate shingled roof over a wood gate. Well maintained, the fence and gate appear in good condition. One section of a similar fence is located on the west side.

Recommendations

No improvements are recommended.

SITE AMENITIES

Signs

Issues

Because the main entrance at the Johnson Memorial Gateway was sheathed in scaffolding due to a restoration project, it was difficult to determine if or what types of signs were in place. A regulatory sign prohibiting dogs and bicycles is attached to the High Street pedestrian entrance.

Recommendations

If there is no identification sign for the cemetery, one should be placed outside the Johnson Memorial Gateway. It would be beneficial to add informational and/or interpretive signs.

Trash Receptacles











Issues

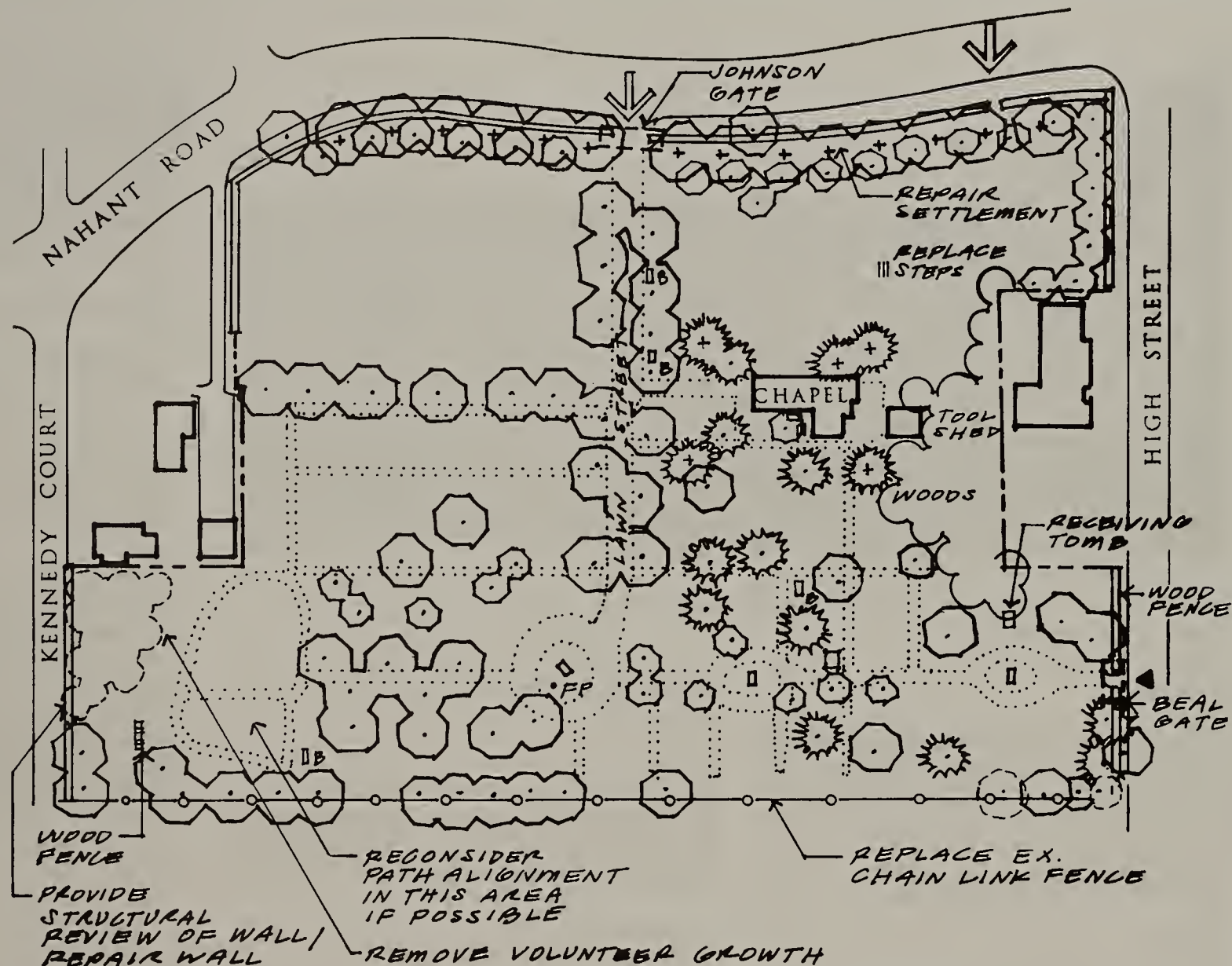
A single 55 gallon drum receptacle with a plastic top is located near the main entrance.

Recommendations

Trash receptacles serve a necessary purpose in an active cemetery. The style should better compliment the historic nature of the site.

LEGEND

-  Existing Evergreen/
Deciduous Tree
-  Existing Woods
-  Remove Existing
Vegetation
-  Existing Stone Wall
-  Vehicular/
Pedestrian Entrance
-  Flagpole
-  Cr. Stone Path
-  Monument
-  Property Line
-  Bench



GREENLAWN CEMETERY PRESERVATION PLAN NAHANT, MASSACHUSETTS

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST
NOVEMBER 1999 SARA B. CHASE, PRESERVATION CONSULTANT
1" = 100' OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

Seating

Issues

There are numerous styles of benches in the cemetery including 4 garden style wood benches, a park style bench with metal supports and wood slats, a Victorian style bench with cast iron supports and wood slats, a stone bench associated with a grave marker and 2 stone benches built into the main entry gate structure. Another bench with concrete supports and wood slats is located just outside the cemetery on Nahant Road.

Recommendations

It would be preferable to designate one bench style for use in the cemetery, one that is supportive of the historic nature and character of the site. Not counting the stone benches which are perfectly appropriate, both of the existing garden style and Victorian style benches meet the criteria in a broad sense.

Flagpoles

Issues

A 20' high fiberglass memorial flagpole is located at the end of the entrance drive adjacent to the WWII monument. It is in good condition.

Recommendations

No changes are recommended.

Planters

Issues

All planters are directly associated with grave markers.

Recommendations

No changes are recommended.

UTILITIES

Drainage

Issues

No drainage structures were found inside the cemetery. In general, the site drains on the surface and flows north and west. No problems were evident. The crushed stone drip strip around the perimeter of the chapel has exposed plastic edging that is out of character with the stone chapel.

Recommendations

No changes are recommended except changing the plastic edging to a material that compliments the character of the chapel.

Water Supply

Issues

Hose bibbs are provided throughout the cemetery.

Recommendations

No changes are recommended in terms of water supply.

Lighting

Issues

Except for security lights at each building, there is no night lighting in the site. There are street lights on the perimeter streets.

Recommendations

Do not provide additional lighting.

PRIORITIES

High Priority

- Stone conservation including resetting and repair of slate markers and pin replacement in marbles that are visibly cracked or spalled
- Vegetative removals
- Structural review and repair of Kennedy Court wall
- Repair of settlement adjacent to Nahant Road wall
- Lawn repairs
- Identification sign placement [if necessary]

Medium Priority

- Stone conservation including marbles with visible metal stains at the junction between marker and base

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Replacement of wood steps
- Chain link fence replacement
- Plastic edging replacement at chapel
- Informational and interpretive signs
- Additional planting

National Register Status: Listed as part of
Massachusetts State
Hospitals and Burial
Grounds
Current Management: Smith Vocational
Agricultural School
Status: Inactive
Condition: Fair



Burial ground with hospital in background

NORTHAMPTON STATE HOSPITAL BURIAL GROUND

NORTHAMPTON, c. 1858

At its opening in 1858 as the second state hospital it was called the Northampton Lunatic Asylum. The institution was cofounded by Dorothea Dix, who led the reform movement to found asylums for more humane treatment of the insane. In a field survey of conditions in Massachusetts she found that the insane were chained or caged in basements or attics and often beaten and otherwise mistreated. She successfully campaigned for state asylums where the insane would be treated with more humane methods [Brown 1998].

The Northampton State Hospital burial ground was in use from the founding of the institution in 1858 until 1921. Patients who died and were not claimed by family or friends for burial elsewhere were buried there. The institution mortuary slip books contain several direct references to the "hospital cemetery" [12/25/1914; 6/11/1916], "hospital burial ground" [7/23/1915] or "hillside cemetery" [6/11/1916] in the section for disposition of the body. Research by Elizabeth Kroon for the Department of Mental Health [DMH] in June 1997 confirmed the presence of 181 burials on the hospital grounds by cross referencing death records in hospital casebooks with extant mortuary slips, death registers of the City of Northampton and local cemetery records.

Ms. Kroon further found 413 burials with unlisted or unclear dispositions such as "Northampton," which also could have been buried on the grounds of the State Hospital. In the late 19th century between one half and one third of patients who died in the hospital were buried on the grounds [McCarthy 1974: 70]. After 1921 patients not claimed for burial by family or friends were listed as "Chapter 113 of general law" or "Chapter 77 of regular law," which were new state laws permitting citizens who die in state hospitals, asylums or prisons to be sent as cadavers to medical schools. These laws are still in effect.

Northampton State Hospital [NSH] closed in 1993. The field on the hillside known as "cemetery hill" fell into disuse. The City of Northampton obtained a 99 year lease from the Department of Food and Agriculture and subleased the field to Smith Vocational Agricultural School for training in agriculture. Protected by a permanent restriction for agricultural use, the field is currently used for instruction in haying, which is beneficial for maintenance of the field. There are no grave markers in the 4 acre field of the former 530 acre site and records have been lost. The site is not recognizable as a burial ground and the specific extent and location of the burials has not been confirmed.

ARCHAEOLOGY

Issues

The location of the Northampton State Hospital burial ground was primarily identified through a strong oral tradition among grounds keepers at the institution. The plot was always referred to as a cemetery by them. A grounds keeper recollects finding two rectangular stones in the area in the 1950s that were believed to be marker stones of some sort. They were described as small squares with no legible inscriptions or metal on them. They might have had faded inscriptions on them.

Records at the hospital of burials and the layout of the cemetery have disappeared. The cemetery's location is verified by the one documentary reference to the burial ground found to date in the institution's records. A November 1933 entry in the Superintendent's Reports 1932-36 described land that needed draining as "land at the foot of what used to be the hospital cemetery which borders on Mill River and runs up towards the spring in back of the barn." [NSHHR 1933] This referenced piece of land is now called the "pumpkin patch," and is still known for poor drainage. The location of the hospital cemetery specified in the hospital record is congruent with the oral history of its location.

The burial ground is accessed by a series of dirt roads that start at Burts Pit Road and extend toward Mill River. The burial ground is an open field surrounded by a dirt road except on the south side, where the field ends in woods. There are no gravestones, paths, entranceways or fences in the field indicating the locations of graves or boundaries of the cemetery. There is an unmarked gravestone in woods across the dirt road to the north of the field. The grave is marked by a cobblestone covered north-south mound with a small upright gravestone at the south end that is flat on the north side but not engraved. It was reported that until recently an elderly woman had periodically visited and placed trinkets on the grave. A bit to the west there was another north-south cobblestone covered mound that might also be a grave, although it lacked a gravestone.

Archaeological reconnaissance survey of the site confirmed the location of the burial ground that was previously identified through oral history. Squarish soil deflations were found extending in 2 to 3 fairly straight nearly north-south rows from the woods on the south edge of the field northerly along the top of the hill. Further, very distinctive squarish to rectangular patches of very green ground cover about 1" high were found where the taller straw colored hay in the rest of the field did not grow. The long axis of the patches of low green vegetation extended roughly east-west, which is the traditional direction for Christian burials. Further, the patches roughly formed rows running north-south as is typical in Christian cemeteries.

There is little indication of underground disturbance in the pattern of deflations and patches of low green vegetation, except that some vegetation patches were longer or shorter than a typical adult burial would be. Some disturbance of the vegetation patches may have been caused by historic tilling of the field. A 1916 map labels the burial ground parcel as "Tillage." [Davis 1916] In addition, a grounds keeper reported that he planted corn in the field c 1943. The same person had heard that the field was a cemetery from his father and uncle who were grounds keepers in the 1920s. Since the 1950s the parcel has changed hands between various state departments and at one point in the 1950s was used for instruction in haying by the University of Massachusetts Agricultural Department as it is today by Smith Vocational Agricultural School.

Recommendations

The Northampton State Hospital burial ground is protected from development by a permanent agricultural use restriction on the property held by the city of Northampton. Further protective measures are recommended. If the location of the cemetery is forgotten, it is possible that the Smith Vocational School or a subsequent renter or owner of the property might use the field not only for instruction in haying but also for instruction in plowing and planting which would further disturb the soil deflations and patches of low vegetation that are the only marks of the locations of graves. Potential harmful or perhaps unintentionally disrespectful agricultural activities include tilling of the ground for crops, leveling off depressions in the field and grazing livestock.

A few long depressions were found running south-north across the hill that appear to have been made by large tires of a tractor or other agricultural equipment running across the field when the soil was wet and soft, thus displacing soil down the hill. It is strongly recommended that haying be conducted only when the ground is completely dry. The local Land Use Administrator for the Department of Food and Agriculture has agreed to draw up a regulation to this effect for the Smith Vocational Agricultural School.

Further archaeological reconnaissance and subsurface testing such as resistivity testing are recommended to identify the boundaries of the cemetery. Further archaeological reconnaissance in the area might also locate small unmarked gravestones of the types once seen in the burial ground. Further documentary research is recommended to find the cemetery plot records and map that were seen years ago at the Northampton State Hospital.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

The site appears as an open sloping agricultural field bordered by woodlands and a river with views to the historic hospital complex.

Recommendations

No changes to this landscape image are recommended.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Access is provided on part of a network of unpaved trails across the hospital property, which is one of the most heavily used passive recreation areas in the city. Pedestrian access is provided through gated entrances from Burts Pit Road. Gradients along the drive in the north end of the site are too steep for universal access.

Recommendations

No changes are recommended for pedestrian access. Universal access should continue to rely on vehicular access routes.

Vehicular Access

Issues

There is one point of vehicular access from Burts Pit Road.

Recommendations

This system appears sufficient for the visitation requirements and no changes are recommended.

Security

Issues

The site is essentially open. Vehicular access points are gated but apparently never closed.

Recommendations

Security is apparently not a significant issue on this property and improved measures should not be pursued at this time.

VANDALISM

Issues

There is no evidence of vandalism.

Recommendations

Vandalism is not a significant problem and no changes are recommended at this time.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

There is a single unpaved gravel path or road connecting the site to Burts Pit Road. It is used primarily by pedestrians and occasional vehicles.

Recommendations

No changes to the circulation system are recommended at this time.

Pavement Materials

Issues

The one lane gravel drive is in fair condition despite the maintenance requirements.

Recommendations

Maintain the drive as is. It should not be widened because of the potential for intruding onto graves close to the road.

SITE AMENITIES

Signs

Issues

There is no identification sign for the burial ground. A small cluster of overgrown shrubs is prominently visible near the dirt road at the top of the hillside burial ground. Within the cluster of bushes are two large stones that could be mistaken for large gravestones, but are remnants of a bench. These are reputedly a memorial to four veterans buried on the hillside built about 1958. Each Veteran's Day after erection of the memorial, NSH employees planted a flag near it as noted in a 1967 NSH newsletter for employees.

Recommendations

The burial ground needs visible recognition which will also add a measure of protection. The addition of identification, interpretive and/or informational signs would be a minimal measure acknowledging the history of the site and the people buried there as well as the scenic landscape.

A memorial for the burial ground would be a more significant means of recognition and is recommended as a measure for preserving knowledge of the use of the site for the hospital cemetery.

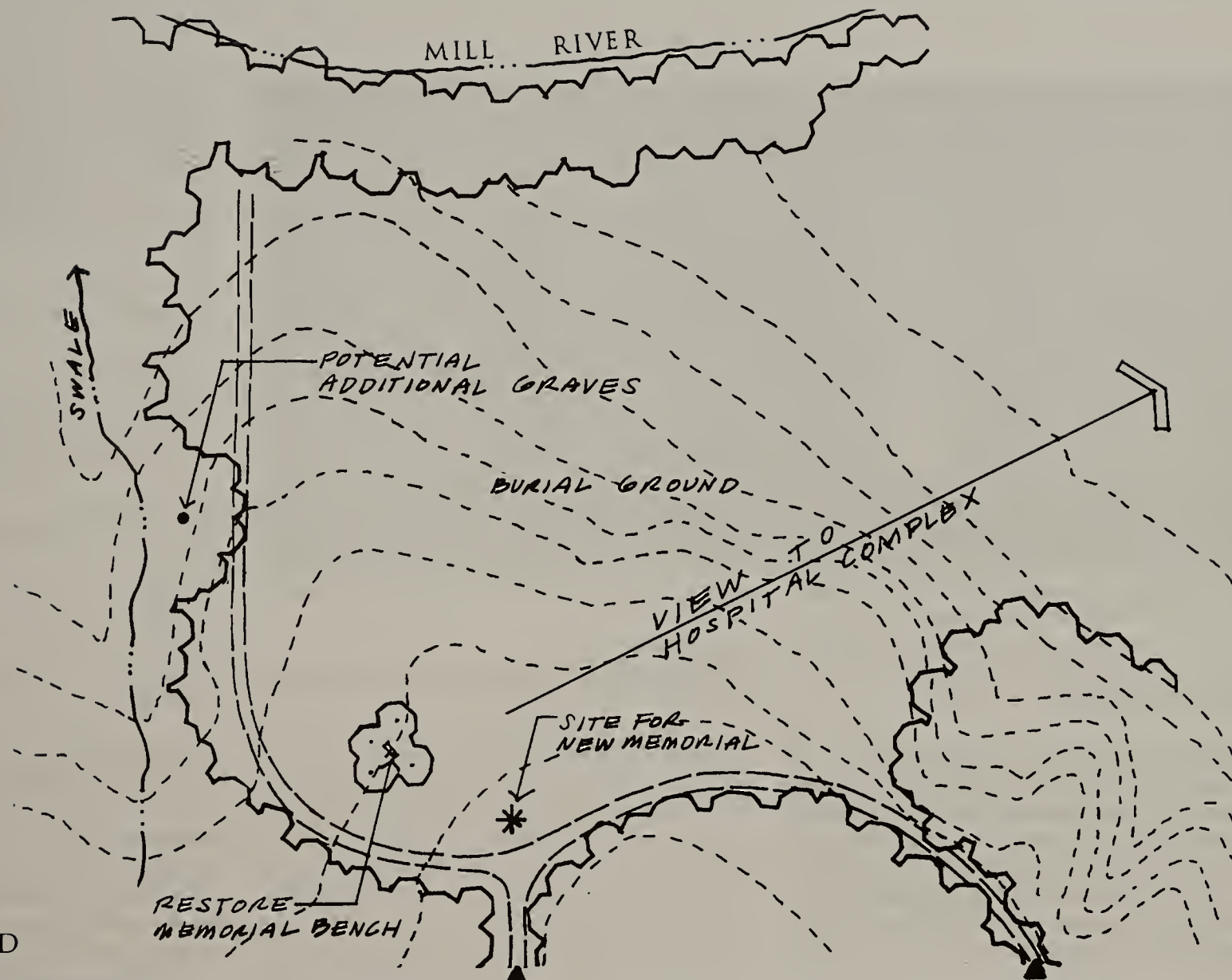
The bench and shrubs are significant because they are the first memorial commemorating the field as a burial ground. This first memorial should be preserved and restored as an important part of the history of the site. It would be best to restore the bench without excavation or any other disturbance of the ground, if possible.

Consideration should be given to adding signs to the area such as a plaque mounted on one of the bench supports noting when the bench was built as a memorial to the burial ground. This effort would restore an important part of the history of the cemetery.

A second plaque could be mounted on the other bench support for the modern commemoration of the cemetery. This plaque could include the dates of use of the burial ground [1858-1921], the 181 confirmed burials, the 413 potential burials and a short commemorative statement or poem. It could also note the existence of at least 2 other burials in the woods across the trail to the north, and the fact that the boundaries of the cemetery have not been determined.

The vegetation surrounding the benches should be preserved but trimmed by hand above ground level to facilitate access to the bench while maintaining the arbor atmosphere created by the overgrown vegetation, which provides protection against the wind.

If another memorial is erected, it should have some form of relationship to the hospital and perhaps be in keeping with the rural and agricultural character of the area. It is recommended that an artist experienced in the execution of outdoor site specific art or a similarly experienced other design professional like a landscape architect or a combination of the two be retained to develop the ultimate expression of the memorial.



LEGEND

- Existing Evergreen/Deciduous Woods
- Existing Drive
- Contour Line
- Vehicular/Pedestrian Entrance

STATE HOSPITAL BURIAL GROUND PRESERVATION PLAN NORTHAMPTON, MASSACHUSETTS

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
SUZANNE SPENCER-WOOD, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

NORTH
NOVEMBER 1999
1" = 200'

Because not all burials result in soil deflations or distinctions in vegetation, the location of subsurface remains cannot be completely accurately determined from surficial archaeological evidence. Thus, a new memorial should not disturb the ground to eliminate the possibility of disturbing elements beneath the surface. If the form of the memorial is such that ground disturbance is required, it should be located such that the anticipated disturbance is minimal, such as near or on the trail, and an archaeologist should be present during excavation work.

To minimize the possibility of disturbing burials, and provide a location of some prominence, any new memorial should preferably be sited near the intersection of the paths at the crest of the hill overlooking the open field where a distant view of the river and hospital complex is apparent. Some vista clearing may be desirable near the hospital complex to open up views to the building complex.

A possible memorial solution is a cairn of fieldstones or cobblestones constructed above ground level and either dry laid or mortared together. A dry laid cairn has the advantage of not requiring ground disturbance for a foundation. Some form of signage is also desirable to help explain the nature and significance of the memorial.

Another possible solution for the memorial is to utilize some of the materials salvaged from demolition of some of the hospital buildings. This may include stone, brick, iron work or other relevant durable materials. It has been suggested that it take the form of an open brick screen wall with windows or views through and perhaps a tower. The openness could be considered symbolic of "escape of spirit" from the remnants of the confines of the hospital. A solution of this type would require a foundation and consequent excavation. The assistance of an archaeologist in the development and execution of a memorial like this will be critical.

Trash Receptacles, Seating and other Amenities

Issues

Other than the memorial bench, there are no amenities of this type in the area of the cemetery.

Recommendations

Do not provide additional amenities of this type.

UTILITIES

Drainage

Issues

No drainage structures are evident. The site drains on the surface with a gentle slope toward the northeast and Mill River.

Recommendations

No changes are recommended.

Water Supply

Issues

Other than the nearby river, no source of water was found in the general area of the site.

Recommendations

No changes are recommended in terms of water supply.

Lighting

Issues

No light fixtures were found in the general area of the site.

Recommendations

Do not provide light fixtures.

PRIORITIES

High Priority:

- Identification sign placement
- Restoration of the c 1958 memorial
- Development of restrictive regulations pertaining to agricultural use of the site

Medium Priority

- Erection of a more broadly encompassing memorial with informational and interpretive signs

National Register Status: Not Inventoried
Current Management: Department of Public
Works Cemetery
Division
Status: Active
Condition: Fair



Interior of cemetery

GLENWOOD CEMETERY

MAYNARD, 1871

Glenwood Cemetery was one of the first significant civic efforts for the newly incorporated town. In 1871, when the town of Maynard was established, a piece of land between 6 and 8 acres in size at the intersection of the old Marlborough Road [Parker Street, route 27] and the Great Road [route 117] was offered by Amory Maynard, founder of Assabet Mills, for the Town's cemetery and named Glenwood Cemetery at a cost of \$1,032. A small portion of the cemetery land had been previously used as a private burial ground between 1750 and 1820.

Prominent Maynard citizens contributed to the maintenance and care of the cemetery beginning with \$250 that was the beginning of the perpetual care fund established in 1880. They also assisted in the expansion of the cemetery. In 1903 additional land was acquired from Lorenzo Maynard [buried in Mount Auburn Cemetery]. In 1928, 11 more acres were purchased from the heirs of William Taylor. In 1975, 2 additional parcels were acquired, 4.39 acres and 7.24 acres.

The overall cemetery property is now 50-55 acres, about 30-35 of which are developed. Only the older part of this cemetery was examined, which is about 15 acres in size and contains 700 lots. This relatively flat area is separated from the newer area by a pond and deep, wooded valley. It is bordered on the west by Parker Street [Route 27], on the south by Great Road [Route 117], on the north by private property and on the east by the new area of the cemetery.

The design of the cemetery may be considered a municipal version of the lawn park style with a large single marker sited in each plot. The more classic private cemeteries of this style have larger plots.

Glenwood contains the remains of prominent residents of town including relatives of Abraham Lincoln, Franklin Pierce, Isaac Davis, members of the original Secret Service and the founder of the local soda company "Maydale" as well as Spanish American and Civil War veterans. In 1876 a lot was granted to the Henry Wilson Post, No. 86, Grand Army of the Republic for the burial of deceased soldiers. Thomas H. Brooks was the first person interred after the land officially became a cemetery.

On the town walking tour, Glenwood is adjacent to St. Bridget's Cemetery, the only other cemetery in town. St. Bridget's was established in 1869 as a Catholic cemetery.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

Relatively evenly spaced maturing trees alternate along drives. The regular pattern has numerous gaps due to lost trees that have not been replaced, giving a somewhat random pattern appearance.

Some old, poorly formed Mountain Laurel line the Parker Street edge. It appears that many have been lost over time. Old photographs indicate that trees had been planted along Parker Street, flanking the stone entrance gate.

Just inside the Parker Street entrance, the circular island has become overgrown, reducing visibility. The outer edge is primarily Yew with some *Arborea* and *Catawba Rhododendron* at pedestrian entrances. Inside there is a ring of *Azaleas* with 4 clumps of *Euonymus* or larger *Azalea* in the center. The scale of the planting in old photographs was such that one could see over it.

The interior of the cemetery has many Yews planted adjacent to markers. Quite a few had been removed about 3 years ago, yielding mostly positive comments from patrons. The current policy regarding shrubs at grave sites is that they be placed a certain minimum distance from the marker and that they be maintained by the lot owner. The town retains the right to remove them if deemed necessary.

The cemetery has 2 significant wetland areas, one an overgrown pond that is filling in with sediment adjacent to old part of the cemetery.

Recommendations

Replace the missing trees in the interior of the cemetery and along the Parker Street edge. Scale down the planting at the entrance circle.

Planting

Issues

There are 111 trees in the maintained area of the historic part of the cemetery with Sugar Maples making up over 80% of the total population. There are also 15 Norway Maples, 2 Red Maples, 3 White Ash, 1 Norway Spruce, 1 White Spruce and 1 Flowering Cherry. The Sugar Maples are the most mature as indicated by their trunk diameter measured approximately 4.5' above the ground. The largest tree in diameter is the Sugar Maple near the Maynard family tomb.

The Sugar Maples and White Ash appear to have been planted around the turn of the century with some replacements in the last 50 years. The Norway Maples are not more than 30 to 45 years old. The large Norway Spruce near the tomb appears to be a volunteer that was seeded naturally, approximately 50 years ago.

Most of the trees are exhibiting some decline especially the Sugar Maple and White Ash. Only one tree is recommended for removal because of location and decay in the main stem. Located at the left rear of the tomb, it leans toward the neighboring property. Two Sugar Maples have crowns that exhibit more than 30% decline. They should be removed at some later date. Many trees have cavities in the lower and upper stems. Some of them should be further examined to determine how much sound wood is present in and around open cavities. This procedure is known as a "Hazardous Tree Assessment" [HTA].

Girdling roots and root damage from equipment also was noted. Eighteen trees have multi upper stem structures that may fail in storms with winds exceeding 55 miles per hour. No disease or insects were noted at this time.

The condition of the Sugar Maples is poor to fair which is evident by small buds, annual elongation growth, thinning out of the crowns and dieback of the crowns. From 1990 to the present, this area has been in a drought and most of the trees are exhibiting decline from this condition. It takes about 5 years of normal rainfall for trees to recover from drought stress.

The cavities and wounds in these trees have developed from branch failure in past storms, maintenance equipment and funeral vehicles. Trees can survive many years with small cavities. As they mature the development of wood is slowed to contain the size of the wounds. As this happens fungus takes advantage with increased activity and the shell of the wood gets thinner. Guidelines to evaluate wood soundness have been developed in the last 10 years that provide indications and information on potential tree failure. Research from hurricane storms and the type and amount of decay in different species of trees have enabled an arborist trained in hazardous tree assessment to recognize and evaluate conditions that lead to tree failure. The level of risk for tree failure is determined by the frequency of people or vehicles in the area, the potential to fail, and an environment that may contribute to that failure. In other words, if there is no target there is no hazard, regardless of the condition of the tree.

Recommendations

These trees need help to survive in the coming years. Improving the health of these trees is most important at this time. Because the large deadwood has been removed from most of the trees in this area, concentrating on improving the health of the oldest Sugar Maples should be the next priority. Pruning out of dead branches 1" in diameter and larger is all that is needed to maintain tree health and a safer environment. Pruning of live branches from any tree is not recommended unless it is broken and in a possibly hazardous condition. These trees need as much leaf surface as possible for photosynthesizing so the development of nutrients and carbohydrates meet or exceed current needs for future health.

To help ensure the longevity of multistem trees, the installation of support cables helps prevent large branch failure. Properly placed 1/2 to 2/3 of the remaining height of the tree above the main fork or forks with eyebolts through the branches, and cables attached to the eyebolt eyes, these cables will not harm the health of a tree. Posting to alert people that during high winds large old trees are subject to failure and could cause injury may help protect the town and people visiting the cemetery.

Trees that are important to the cemetery would benefit with the addition of organic mulch material to the existing soil beneath their canopy. This will help retain any fertilizer and moisture in the soil. Mulching areas also reduces mowing areas and tree roots do not have to compete with grass roots for nutrients and moisture. If possible within the historic character of the cemetery, a 3-4" depth of mulch should be applied beneath the tree canopies. Composted wood chips or other composted material would be very beneficial together with fertilizer. A granular fertilizer could be applied first and then mulched over.

The soil in this cemetery is coarse in texture, mostly sand and gravel. Water and nutrients leach very quickly from soil like this. Soil tests should be taken throughout different sections of the historic part of the cemetery to determine soil acidity [pH]. From these analyses, pH adjustment and fertilizer requirements can be determined. Requirements for Sugar Maple and Norway Maple are different, so liming requirements to adjust pH will vary from one area to another. Grass will survive in a wide pH range and do sufficiently well for the intended purpose in this cemetery. Especially during dry periods, a lime and fertilization program is recommended, starting with the old Sugar Maples.

If irrigation can be provided from the pond or other source, it should be done during the dry periods of July and August. One inch of water a week would help sustain trees until the fall and winter rains commence.

Volunteer Growth

Issues

This type of growth is generally under control in the tended portion of the cemetery. Ailanthus was observed adjacent to the receiving tomb and at the wetland edge of the cemetery.

Recommendations

Continue to keep volunteer growth under control. Work with the Conservation Commission to eliminate the Ailanthus.

Lawns

Issues

The topsoil layer appears thin and the soils in general are rapid draining such that they do not retain much moisture or nutrients. A significant amount of herbaceous weeds and moss is present, indicating that the soils are highly acidic. A fertilizer program had been started in past few years, with the hope of beginning a lime program.

Lawn conditions on both mound tombs are similar in that each exhibits sloughing of earth on the south side. The receiving tomb also has some moss growth.

Recommendations

Undertake pH tests as described above and initiate an acidity correction program with lime. Consider adding organic matter to the soil to assist with moisture and nutrient retention and continue with a fertilization program.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

Most visitors arrive by vehicle through the Parker Street gate. A pedestrian entrance near the Maynard tomb is defined by 2 rusting, acorn capped iron bollards with a step down into the cemetery. Another pedestrian entrance is located adjacent to the receiving tomb. The Maynard tomb has pedestrian entrances on each side of the vehicular gate. All walking surfaces inside the cemetery other than drives are lawn and slopes are relatively gentle.

Recommendations

No changes are recommended for pedestrian access. Universal access should continue to rely on vehicular access routes.

Vehicular Access

Issues

The primary vehicular entrance to this part of the cemetery is through the stone gateway on Parker Street which has a 10-11' clear opening. A secondary entrance on Great Road is used primarily for the newer part of the cemetery.

Recommendations

No changes are recommended.

Security

Issues

The cemetery perimeter forms a fenced enclosure. Vehicular entrances are chained closed at night. The Maynard family tomb gates are always locked. Pedestrian entrances are always open.

Recommendations

No changes are recommended.

VANDALISM

Issues

No vandalism of consequence was reported or evident.

Recommendations

No changes are recommended.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

The vehicular system has a geometric layout with a radial central area set within an overall rectangular grid. There is a perimeter concrete sidewalk on Parker Street, but no separate formal walk system in the developed portion of the cemetery other than the path by the pond.

Recommendations

No changes are recommended.

Steps

Issues

Most steps are generally associated with family burial plots and plot edging.

Recommendations

Refer to the recommendations pertaining to the edging of family plots.

Roads

Issues

Drives are not edged and widths vary from 16' at the central road and entrance to 12' around the planted circle. Drives perpendicular to the central drive are 11' wide and gravel drives are about 10' wide.

Adjacent to the older part of the cemetery, it was reported that the road going between the pond and the swamp on Great Road was constructed during the Works Progress Administration [WPA]. It was reputedly rebuilt a few times because it sank.

Recommendations

Refer to recommendations pertaining to pavement materials.

Pavement Materials

Issues

Old photographs indicate that there were gravel drives set in neatly edged lawns. Today the main drives are bituminous concrete in varying conditions. New paving has been installed at the entrance and around the rotary. Secondary drives are paved with ground asphalt aggregate and those less used have reverted to lawn.

Recommendations

As long as this part of the cemetery continues to have burials, it is advantageous to maintain the current pavement materials. Once this section becomes inactive, the central and perimeter drives should remain paved for maintenance reasons while the secondary drives should become lawn.

GRAVE MARKERS

Headstones and Footstones

Issues

The majority of the over 700 grave markers are granite [74%] with some marble [25%], 2 zinc and 1 boulder. Most of the older marble markers tend to be in the northwest quadrant.

Stone surfaces are for the most part in good to excellent condition, as would be expected for a predominantly granite collection. Some of the marble markers exhibit varying degrees of erosion caused by acid rain deposition.

Recommendations

Priority work relates to conservation of significant marble markers to protect them from the detrimental effects of atmospheric pollution.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

The original vehicular gate at the Parker Street entrance was replaced in 1928 with a monumental stone arch. This gate was the gift of William F. Litchfield, a leading local businessman. It is a flat arch consisting of tapered stones and a center keystone. The side columns supporting the arch consist of 30" by 36" by 18" stacked units. Most of the joints are tightly fitted, being less than 1/8" thick, but the joints on both sides of the keystone are about 3/4" wide. The stonework is intact, plumb and flush. Some of the mortar joints need minor repointing where they have cracked or efflorescence staining indicative of water infiltration.

The arch has no gate hinges, but does have eyebolts on the cemetery side with a rusted chain which can be used to close the cemetery. A bollard is located on each side of the arch between the ends of the fence and the stone pillars.

Recommendations

The stone entrance arch is in excellent condition but needs minor maintenance work on the mortar joints. Repoint obviously deteriorated joints.

Mound Tomb and Vault Structures

Issues

There are two mound tombs in the old part of the cemetery, each with separate entrances to Parker Street. A massive structure called the Maynard Tomb is in a separate, side lot at the northwest corner of the cemetery. The other one, with only the date 1888 etched into its lintel stone is close to Parker Street just south of the entrance to the cemetery. The mound tombs are in good condition but need minor maintenance work on the mortar joints.

Maynard Tomb: The Maynard family tomb, erected in 1880 by Amory Maynard and now owned by the town, is a large mound retained by a granite facade with curved wing walls made up of large Chelmsford granite units. A typical stone is 8' long, 2' thick and 2' high. The lintel over the entrance doors is an impressive 11' long and 3' high. In spite of the size of the units, the joints between stones are tightly fitted and only 1/8" thick. The surfaces of the joints appear to be sealed with lead. Although the lead has dried, cracked and shifted, the stone units have not shifted or moved. Undoubtedly due to the large stone sizes, they have resisted any water and ice pressure from the earth backfill and infiltration into the joints.

Although the wall construction is intact, straight and flush, the surface of the stone at the top of the wall is affected by surface scaling. The hard finish on the stone has peeled off and a scaly, mildewed texture is present. Scaling such as this is usually related to the formation of calcium sulfate [gypsum] salt on the surface of the stone. The gypsum is formed from calcium carbonate naturally in the granite and sulfur dioxide in the air. The formation of gypsum requires about twice the volume of calcium carbonate, which leads to distress and disruption of the granite surface. While sulfur dioxide emissions have been reduced in modern times, they were more extensive when coal was the most common fuel. Oddly though, only one other stone in the entire wall has this condition. It should be noted, however, that the surface damage on these two stones is superficial and only cosmetic. Therefore, no remedial action is necessary to maintain the future structural integrity of these massive stones.

The Maynard Tomb has a double leaf marble door with carved latticework allowing air into the tomb. Each leaf has bronze hinges and pivots on bronze pins. One door has a horizontal break and the other is cracked with a partial horizontal fracture.

The tomb contains 8 vaults. The construction of the interior walls and roof of the vault could not be observed. No signs of settlement or movement were seen and the interior was reported to be in good condition by the town. At the top, in the center of the vault, is a skylight [glass with wire] with a perforated iron cap on a stone base. The iron is rusted.

Receiving Tomb: The 1888 tomb was a receiving or holding tomb for the cemetery. It has not been used in the past 7 years and is now empty. The front wall consists of four vertical panels of 9" thick, 27" wide and 6' high granite. Rough granite units form buttresses on each side of the front wall. A thin stone lintel spans across the four panels and iron door and is capped with a tapered pediment. Although the stone units have not moved or shifted, the 3/8" mortar joints are deteriorated and need to be repointed. The iron door is rusted.

At some point in time work along Parker Street raised the level of the edge in relation to the tomb such that there is now a slope down to the receiving tomb door from the perimeter sidewalk. Nearby catch basins collect storm water.

Recommendations

The two mound tombs are in good to excellent condition. At the Maynard Tomb, reset the lead joints between stone units. Repair the marble doors with epoxy and stainless steel pins. At the 1888 receiving tomb, repoint the mortar joints between stone units.

The Maynard tomb door cracks and breaks can be repaired with epoxy and stainless steel pins set into the broken surfaces. Consultation with an epoxy manufacturer is necessary to select an epoxy formulated for the marble material and the exposure conditions.

Clean and paint the iron door at the receiving tomb and the iron cap at the Maynard tomb.

Edging of Family Plots

Issues

A few of the plots have stone edging, primarily granite [Brigham, Brooks, Greer, Maynard, Redfearn and Whitney] with some marble [Hall, Turner and Willis]. Most of them are more or less intact, but several have rotated, settled at one end, or separated at the corners. Movements are caused by earth pressures between high and low grades and from saturated, freezing earth, i.e., frost heaving.

Recommendations

The edging needs routine maintenance work including resetting the stones. In order to prevent untimely displacement in the future, the corners can be stapled with stainless steel "dogs" or epoxy coated pins. The ground under and behind any reset stone should be good draining material. That is, if the ground behind the edging is found to be saturated or heavy with organic material, that material should be removed and replaced with gravel or crushed stone before covering with lawn. Likewise, if the foundation under the edging is disturbed or contaminated with saturated earth, it should be rebuilt with a foundation of compacted gravel or crushed stone.

BUILDINGS

Issues

A blue painted concrete block maintenance building has a prominent location at the end of the central drive from the Parker Street entrance. The building has a relatively new roof of gray asphalt shingles because of a recent fire. It is used for the storage of maintenance equipment and burial records. It also has a fenced in yard for maintenance purposes.

In the center of the rotary near the Parker Street entrance once stood a "summer house." It was described as "a neat artistic summer house near the well" and a variety of trees and flowering shrubs were planted with it. During the hurricane of 1938 a 76' high Spruce blew over, damaging the house so badly that it had to be torn down.

Recommendations

In the future planning for expansion of the cemetery, consideration should be given to finding a less prominent location for the maintenance facility. In the meantime, some planting on the west side of the building would reduce the visual impact of this structure.

If funding permits, consideration should be given to replacement of the "summer house."

FENCES AND GATES

Iron Fences and Gates

Issues

The original stone wall around the cemetery was replaced during the Works Progress Administration [WPA] with the current iron fence along the perimeter streets. The picket fences along Parker Street and a short section of Great Road are heavily damaged and need extensive repairs or replacement. The free standing stone pillars within the picket fences are intact and need no work.

Fence at Parker Street and Great Road: The picket fence along Parker Street and a short distance along Great Road is made up of vertical pickets spaced 4" apart with angles for the top and bottom rail. Although the fence appears to be the same along the entire street, it actually consists of 3 subtly different sections.

The fence in front of the Maynard Tomb has 3/4" square pickets turned at 45 degrees. This fence is in short sections separated by six 18" square stone pillars at the 2 pedestrian gates and at the corners of the Maynard Tomb lot. Two 30" square stone pillars support vehicle gates adjacent to the pedestrian gates directly in front of the Maynard Tomb. Because these larger pillars are set back from the sidewalk, the picket fence curves back to meet them. The south section of curved fence is bent and wracked. The beveled and sculpted granite pillars are in excellent condition, partly because the iron picket fences are not physically attached to the granite. That is, there are no embedded metal fasteners to corrode and crack the stones. The stones have been slotted so that the fence rails are simply inserted loosely into the faces of the pillars. The slots prevent the fence rails from shifting up or down and from side to side but allow them to move in and out as they expand and contract from temperature changes.

Further down Parker Street, between the Maynard Tomb and receiving tomb, the pickets are 7/8" diameter rods and the fence is about 3'-1" high. In this length of fence, the bottom rail is generally covered with earth and the sidewalk. Work on Parker Street raised the elevation of the sidewalk such that it is higher than the base of the fence. Because the bottom rails and stanchion pipe posts have corroded at the ground surface, the fence has leaned inward and would probably have fallen over except for the contemporary T-posts driven into the ground to brace the fence. Besides the damage from moisture along the bottom of the fence, there is occasional damage from vehicle impact. Lost splice plates along the rails have been replaced with welds and individual pickets have been bent. Cast iron cannon barrel style bollards at a pedestrian entrance have been broken off at their bases and have been crudely welded back together.

An iron pipe rail at the receiving tomb is 24" high with 2 horizontal rails set on top of a low stone wall. The 2" OD rail is hidden by a Yew hedge.

From the receiving tomb to Great Road the bottom rail is generally raised above the ground surface. Although this 2'-11" high fence is in better condition than the other sections along Parker Street, the bottom rails have random corrosion due to road salt spray and snow banks. In this section there are 11 missing pickets and some traffic damage.

Fence at North and East Sides of Maynard Family Tomb Lot: An older iron picket fence defines the property lines along the north and east sides of the Maynard Tomb lot. The west and south sides were reportedly given to support the WWI effort. The fence is in good to excellent condition. Pickets are 7/8" diameter rods spaced about 4" apart and the fence is about 4'-8" high. Stanchion pipes have apparently corroded at the ground surface but have been replaced with 1-1/4" square bars attached on the outside of the top rail. At the east side, diagonal rods also brace the top of the fence. Although the bottom rails are flush with the ground or overlain with leaves, there is little corrosion present, a condition probably due to the location of the fence away from the street and road salts. At one location along the north side, the fence has been distorted vertically by the roots of a large tree.

The town has tested the paint on the fences and determined that it is lead based.

Recommendations

The street fencing needs to be extensively rebuilt. Although the street fencing can be replaced, two of the three conditions that caused its deterioration cannot be readily changed. The conditions causing deterioration are: contact with the moist ground; exposure to corrosive salts; and exposure to traffic accidents. While parts of the street fencing could probably be salvaged, the components are so common that it may be more efficient to reconstruct the entire fence profile from new steel materials rather than trying to integrate salvaged materials with new materials.

By rebuilding the fences, they can be set higher so that the bottom rails and pickets are above the ground. The fences could be protected from traffic with bollards but some of the damage may actually be from sidewalk snowplows. Because of the proximity to two busy streets, protective coatings would be the only way to block the corrosive effects of the salts.

Although wrought and cast iron are corrosion resistant when exposed to moisture, they cannot withstand the assault of corrosive salts. However, uncoated steel is even worse for resistance and even stainless steel can become pitted from constant attacks from salt. Therefore, if the fences are rebuilt, they should be fabricated and galvanized in short sections. Galvanizing is a near permanent protection against "normal" exposure to moisture and moderately corrosive atmosphere, but being a sacrificial zinc coating embedded molecularly with the surface of the steel, it will not survive against aggressive corrosion. Therefore, additional coatings of paint formulated for hostile environments should be used on top of galvanized steel.

Based on the above discussion, the following for maintenance, repairs and replacement of the fences is recommended:

Replace the fencing along Parker Street and Great Road. Replicate the existing fencing with steel components. Fabricate and galvanize the fencing in short panels. Bolt rather than weld the panels together in order to allow some movement from thermal contractions and expansions. Replacement fencing should be designed to be above the ground surface and resistant to corrosion from winter salts and accidental vehicle impacts. Set the fencing high enough to be out of the ground. Paint the fencing with a coating system designed for corrosive environments.

At the west side of the Maynard Tomb replicate the fence on the north and east sides of the tomb. At the north and east sides of the Maynard Tomb lot, lower the earth grade or raise the fencing so that the bottom rails are above the ground. Replace the occasional missing splice plate or damaged rail. Reset the section at the tree roots. Replace corroded stanchion pipes. Clean and paint the fencing.

Chain Link Fences and Gates

Issues

The north and south boundaries of the cemetery are defined by galvanized steel chain link fence. The north fence includes 2 heights, 5' along the south side of the Maynard tomb lot, and 4' extending along the rest of the property line. A maintenance vehicle access gate has been provided for the Maynard tomb lot. It is kept padlocked and closed. Both fences are in good condition without any damage. They are straight and plumb.

Recommendations

No changes are recommended at this time.

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SITE AMENITIES

Signs

Issues

There is no sign identifying the cemetery other than a small bronze plaque at the Parker Street entrance gate which also has a small metal sign on a chain stating "Cemetery Closed."

Two regulatory signs were seen, including a fading metal sign with red letters on a white background stating "Notice - No planting or other work on lots without authorization from Cemetery Department - No dogs allowed." A fading metal traffic control sign with black letters on a white background states "Speed Limit 10."

Recommendations

Regulatory signs should be replaced and consolidated. Interpretive signs would help provide an informative experience for visitors.

Trash Receptacles and Seating

Issues

There are no benches in the older part of the cemetery. There are a number of green painted, blue plastic trash receptacles of about 55 gallon capacity which reportedly were donated to the town by a local pickle factory.

Recommendations

Do not add benches, except perhaps in relation to the pond walk which is separate from the main part of the cemetery. Consider reducing the quantity of trash receptacles and placing them only near the entrance and maintenance building.

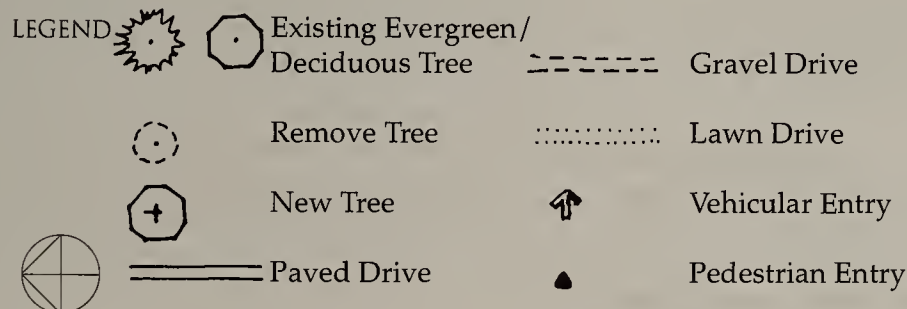
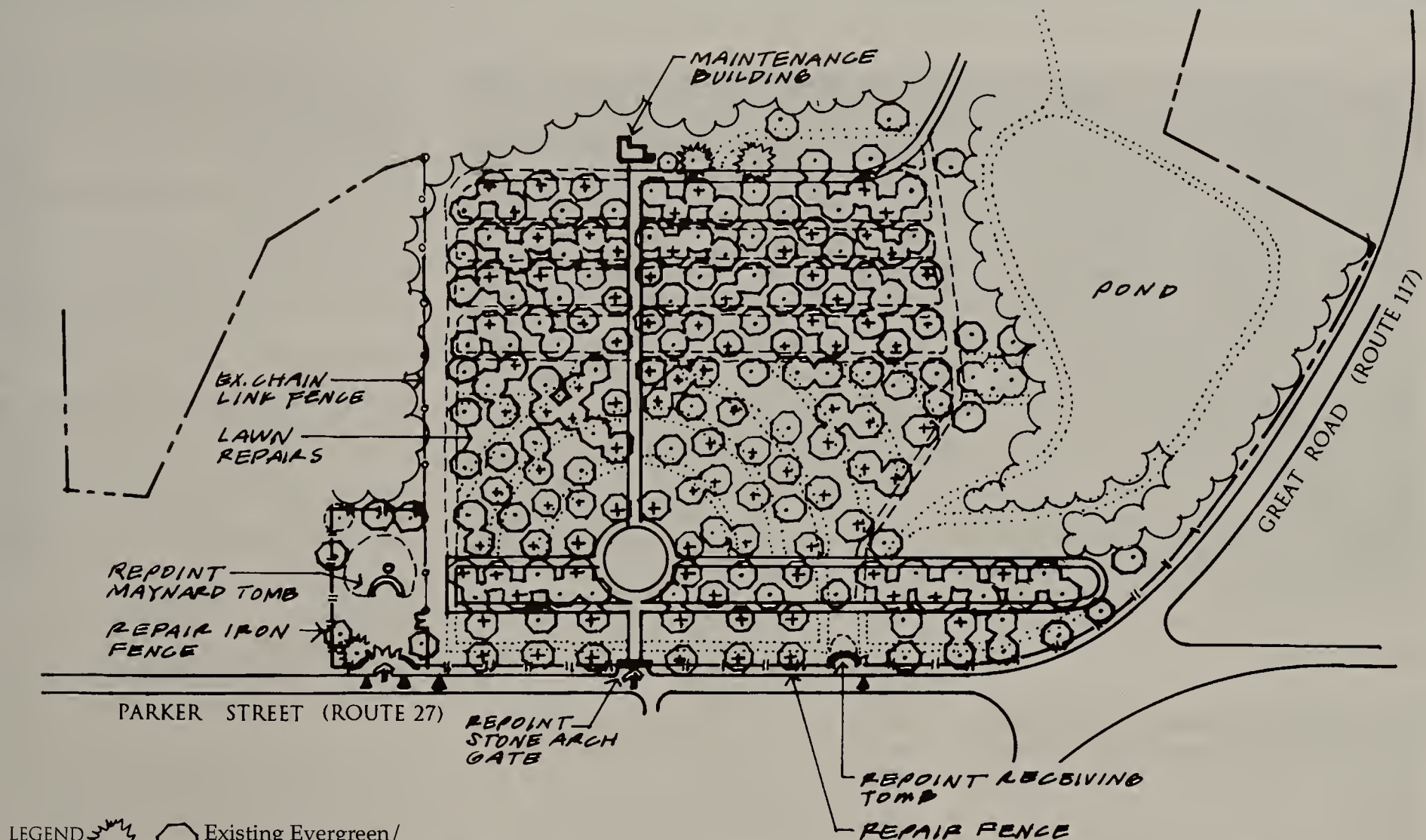
Flagpoles

Issues

One flagpole, associated with a burial plot, was found inside the cemetery. It is about 20' high, painted white, and in good condition. No flag was flying.

Recommendations

No changes are recommended at this time because of the flagpole's association with a burial plot. However, if the flagpole should deteriorate significantly, it should be removed.



GLENWOOD CEMETERY PRESERVATION PLAN MAYNARD, MASSACHUSETTS

BY:
WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
SUZANNE SPENCER-WOOD, CONSULTING ARCHAEOLOGIST
SARA B. CHASE, PRESERVATION CONSULTANT
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

PREPARED FOR:
COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE

NORTH

MAY 2001
1" = 200'

UTILITIES

Drainage

Issues

Storm drainage is directed over the ground surface either to a storm drainage system or the adjacent wetland. A few catch basins were noted, primarily near the Parker Street edge. Recent work related to Parker Street raised that edge in relation to the cemetery, making the storm drainage system essential.

Recommendations

No changes are recommended.

Water Supply

Issues

Although reported to be in poor condition, the cemetery has a water supply. A water meter manhole is located in the center of the entrance island and some hose bibbs were observed. A town wide water ban prohibits irrigation of lawn areas.

Recommendations

The water supply system should be replaced if the system evaluation supports this conclusion.

Lighting

Issues

No lights were seen inside the cemetery. There may be some ambient light from adjacent street lights.

Recommendations

No additional lighting is recommended.

PRIORITIES

High Priority

- Trees with large cavities, leaning into the cemetery, drives or grave markers.
- Tree replacements on west side.
- Lawn repairs on west side.
- Restore grave markers that present public safety hazards or are structurally unsound.
- Replace dowels in multipart stones that are visibly cracked or spalled.
- Conserve historically significant marble markers that are in danger of becoming illegible.
- Repair broken stones if the inscriptions are legible and at least 75% of the stone is available.
- Repair Maynard tomb doors.
- Repair perimeter iron picket fence.

Medium Priority

- Trees with large cavities, leaning away from drives and grave markers and not located in the front area where vehicles may drive.
- Tree replacements on east side.
- Lawn repairs on east side.
- Replace dowels in multipart stones with visible metal stains at the junction between stones.
- Clean legible markers.
- Repoint Parker Street arch.
- Repoint Maynard and receiving tombs.
- Paint Maynard and receiving iron work.

Low Priority

- Trees with a small amount of dead wood and branches, and trees protected from the winds in close to the edge or other trees.
- Reset markers that have shifted or are leaning.
- Reevaluate and conserve marble markers that are currently in satisfactory condition, as necessary.
- Reset family plot edging.
- Maynard tomb iron picket fence repairs.
- Provide interpretive signs.

PRIORITIZED COST ESTIMATES

High Priority

Tree removals	\$1,000
Tree pruning	1,600
Tree support systems and fertilization	4,400
Tree replacements	20,000
Lawn repairs	75,000
Repair Maynard tomb doors	3,000
Perimeter iron picket fence repairs	<u>275,000</u>
	380,000

Medium Priority

Tree pruning	1,300
Tree support systems and fertilization	2,000
Tree replacements	11,700
Lawn repairs	75,000
Repoint Parker Street arch	3,000
Repoint tombs	4,000
Paint tomb iron work.	<u>3,000</u>
	100,000

Low Priority

Tree pruning	600
Tree fertilization	3,400
Maynard tomb iron fence repairs	40,000
Interpretive signs	<u>10,000</u>
	54,000

Costs associated with grave marker work have not been included. Refer to the General Recommendations section for approximate costs of various types of repair.

National Register Status: *Inventoried,
Recommended Eligible*
Current Management: *Parks Department*
Status: *Active*
Condition: *Good*



Main entrance on Washington Street

GLENWOOD CEMETERY

EVERETT, 1890

As an active 22.5 acre rural style cemetery, this is considered the last of the remaining open spaces in Everett. Glenwood Cemetery is sited on a large trapezoidal lot with about 1,300' of frontage on Washington Street and 900 along Fuller Street. It abuts Woodlawn Cemetery on the other two sides and gently slopes towards Washington Street. There are a number of military components in the cemetery including the first burial, a Civil War veteran on 3 June 1890, as well as veterans of the Spanish American War, World War I, World War II, and the Korean and Viet Nam Wars.

Until 1890 the only cemetery in Everett was Woodlawn Cemetery, a privately owned and maintained burial ground in the northeast corner of the city. Woodlawn, founded in 1850, is one of the notable "rural" cemeteries in greater Boston, comparing favorably with Mount Auburn and Forest Hills.

Desiring a public burial spot that would be an affordable alternative to the high prices at the adjacent Woodlawn Cemetery, the city first seriously investigated setting aside land in 1889. The following year a 12 acre field was purchased from Wellington Towle. James E. Stone was paid \$390 for "surveying, engineering and staking out lots and avenues". Seven main avenues, mostly 20' in width, and many 10' wide cross avenues were laid out and the first burial was that same year. Only Everett residents were allowed to purchase lots and be buried here. Lot enclosures were not permitted.

In 1894 an additional tract of land was purchased, allowing a grand entrance to be constructed on Washington Avenue. Plans for Glenwood were developed late in the rural cemetery movement. Two plans prepared by the city engineer Christopher Harrison in 1899 show different approaches to the cemetery's layout. The first, dated September 1899, is a grid plan enclosed by an undulating drive. The second, dated 2 months later, is a gracious curvilinear plan based on the rural cemetery ideal.

Apparently, the earlier plan was preferred, as the east side of the cemetery is regular and angular today. The western half of the property was developed first and has more of a rural cemetery style with some curvilinear road layout. However, the cemetery does not have the topographic variety of the adjacent Woodlawn Cemetery that is another primary characteristic of a rural cemetery.

LANDSCAPE CHARACTER, LAWNS AND VEGETATION

Landscape Character

Issues

Dominated by large deciduous shade trees and lawn, the ornamental plantings of a rural cemetery of this type are missing, as well as the vegetated buffers separating the cemetery from adjacent streets. Most of the flower beds that once existed are also gone, presumably lost about the same time the greenhouse was removed. The vast majority of trees are related to road edges.

Recommendations

The general composition should be maintained with the addition of more ornamental plantings at the entrance and along the south and west edges where possible.

Planting

Issues

There are approximately 317 trees in the cemetery not including arborvitae hedges. Tree cover is about 98% deciduous with Maples accounting for 82% of the total. Honeylocusts represent the next most frequent occurrence with 6% of the total.

Large deciduous shade trees include 250 Maples [including 7 Red Maple and 3 Fastigiate Maple], 19 Honeylocusts, 7 European Beech [including a State Champion], 3 Tuliptree, 3 Ash, 2 Linden and 2 Black Locust. Small deciduous trees include 7 Cherry [including 3 Black Cherry], 4 Dogwood, a Crabapple and a Redbud. Evergreen trees include 7 Spruce and 1 Cedar as well as a number of Arborvitae. Most of the older Maples have dead wood and cavities and should be examined by an arborist.

Other types of planting are limited and include Yews, Falsecypress, Azalea and Rhododendron as well as flower beds along entrance drive composed of bulbs and other perennials.

Recommendations

Immediate priorities include pruning and cabling as necessary. Tree conditions should be monitored annually with removals when necessary. Additional large shade trees should be planted where trees are missing or have been lost in locations where they will not impact grave markers, walls or views.

Volunteer Growth

Issues

While there is no new volunteer growth, some old growth is apparent along shared fence lines that is now growing into and around iron fencing.

Recommendations

Work with Woodlawn Cemetery to remove all volunteer growth.

Lawns

Issues

Lawn areas are generally in fair condition with a few bare spots. Maintenance is provided by the Parks Department.

Recommendations

Repair lawn areas as required. Lawns should receive an annual application of fertilizer to sustain a reasonable level of health.

ACCESS AND SECURITY

Pedestrian and Universal Access

Issues

The cemetery is accessible to pedestrians with sidewalks and entrances on Washington and Fuller Streets. The latter entrance has one step up into the site. While there is no on street parking, there is vehicular access into the site and parking inside. Although there are few paved walks inside the cemetery, gradients are gentle allowing free access throughout except for the steps up to each pavilion.

Recommendations

No changes are recommended for pedestrian access. Universal access should continue to rely on vehicular access routes.

Vehicular Access

Issues

The large main entrance, no longer gated, is on Washington Avenue. A secondary gated entrance, which was the original main entrance, is on Fuller Street. It is assumed to function now as a service access point.

Recommendations

This system appears sufficient for the visitation requirements and no changes are recommended.

Security

Issues

There is no security because there is no night watchman and open access at both entrance points, day and night.

Recommendations

Because of the active day time visitation, securing access points may not be necessary. Glenwood appears to be an important part of the lives of many local residents.

Plan of Glenwood Cemetery in 1900 Annual Report



VANDALISM

Issues

With little evidence of vandalism, this does not appear to be an issue in this cemetery.

Recommendations

Vandalism is not a significant problem and no changes are recommended.

CIRCULATION SYSTEMS AND MATERIALS

Circulation Systems

Issues

While the road system is well developed, the path system is not as complete. Drives on the west side of the site are more curvilinear in nature while those on the east side are straight and functional.

Recommendations

No changes to the road system are recommended at this time. Consideration should be given to adding paved walks to important destination points. Path alignment characteristics should be sensitive to which part of the site they are being placed in, so as not to detract from historic integrity.

Walks

Issues

There are very few paved walks including about 200 linear feet of concrete walks primarily related to the office building and a few selected monuments, and about 900 linear feet of bituminous concrete walks. Many of the latter are very narrow and deteriorating.

Recommendations

New and replacement walks should be 4' wide.

Steps

Issues

Because the site is gently sloping there are few steps. Those that exist are concrete and related to some monuments and the two open air pavilions.

Recommendations

Given the requirements of the Federal American Disability Act, efforts should be made to make these few facilities accessible.

Roads

Issues

There are almost 12,000 linear feet of bituminous concrete roads in the cemetery. The main roads are 20' wide and secondary routes are 10' wide. Most exhibit minor cracking. Some are in very poor condition including Alpine Avenue which may be the worst.

Recommendations

Remove and replace deteriorated drives. Repair cracks and resurface less deteriorated drives.

Road Edging

Issues

Related to the roads are about 9,300 linear feet of concrete curbs which have a quarter round profile. It appears that the curb is being removed in some sections of the cemetery. While most of it is in fair to good condition, the worst is along a stretch of Evergreen Avenue near Mayflower Center.

Recommendations

Although it impedes universal access, the concrete edging provides one of the character defining elements of the site. This edging should be maintained, particularly on the older west side.

Pavement Materials

Issues

Most paved surfaces are bituminous concrete with a limited number of concrete walks.

Recommendations

Assuming that the site is heavily snow plowed because it is an active cemetery, paved surfaces should remain bituminous pavement.

GRAVE MARKERS

Headstones and Footstones

Issues

Glenwood Cemetery has over 7,000 markers that appear relatively densely distributed. Most are modest rectangular markers composed of two parts, an inscribed stone set on a granite base stone and attached with metal pins. There are also a number of more monumental sculptural stones, most of which are early 20th century, as well as memorials for veterans and public service groups like GAR [1938], VFW [1936], Marine Corps, Korean War Veterans, American Legion, Everett Firemen [1933] and Everett Police [1939]. About 80-90% of the inscribed stones are granite with those before 1920 usually marble. The collection includes several white bronze [pressed zinc] monuments, recognizable by a bluish tint and hollow sound when tapped.

Stone surfaces are for the most part in good to excellent condition, as would be expected for a predominantly granite collection. Subsurface biological growths, mostly green algae, are seen in areas near trees. Marble markers are in fair condition, suffering from the deteriorating effects of atmospheric pollution. There is little or no evidence of mower damage, particularly impressive considering the tight placement of stones in recent sections. Many of the markers are splattered with soil near the base, and several exposed foundations were observed. Both of these conditions indicate a loss of ground cover which if unattended to will lead to structural destabilization.

The primary issue is shifting and toppled stones. In most cases the two stones have come cleanly apart, although cracks and splits around metal pins are also evident. Some of the monuments have applied metal elements like bronze plaques and figures. The bronzes are either unmaintained, where a typical green-black "patina of time" has formed, or over cleaned with surfaces regularly polished "penny bright" and lacquered. This removes the foundry applied patina and prevents a deeper tone to develop by oxidation.

Recommendations

Priority work relates to resetting of leaning and toppled markers. Marble markers should be conserved. New markers should have proper foundations to keep markers from shifting. The ground cover should be surveyed annually in each section and exposed foundations should be covered.

Unmaintained bronze elements should be allowed to remain as is. Owners of the "penny bright" bronzes should be engaged in a discussion of aesthetic desires. If acceptable, a deeper bronze patina might be reestablished and maintained with cyclic application of lacquer or wax coatings.

STRUCTURAL ELEMENTS

Perimeter Walls

Issues

Fuller Street Wall: Constructed in 1894 using stone salvaged from the site, this mortared fieldstone retaining wall is 20" wide. The height varies from 30" near Washington Street to about 44" high halfway along the cemetery and then reducing as it approaches the service entrance. Although sections of the stonework are in good condition, most of the mortar work is cracked or missing and several stones are missing. The concrete cap is also broken, spalled and missing. However, even where the mortar and smaller stones are missing, the main stones are large, well seated and stable. The wall does not need much rebuilding but it does need 100% repointing.

Fuller Street Entrance: This entrance has a modern barrier gate attached to old 32" square brick piers. An attempt has been made to waterproof the piers with a parget coating, but cracking on the surfaces indicates that the piers are severely disrupted by water intrusion and internal moisture movements. They need to be dismantled down to sound masonry and rebuilt, or demolished in their entirety and replaced.

Washington Street Entrance: This entrance, an important goal of the 1894-1899 expansion, is characterized by 4 granite piers consisting of stone bases, shafts and capstones. Only 1 of the piers is assembled with mortar beds. The stone units of the other 3 piers are set dry. It appears that they may have been knocked over and simply straightened without resetting them in mortar. Mortar plugged holes in the sides of the gates are evidence of former gate hinges.

Recommendations

Repoint the entire stone wall on Fuller Street and rebuild missing stone work and cap where required. Provide weepholes at the bottom of the wall at four foot intervals. Rebuild the service gate piers. Reset the main entrance piers in mortar beds.

BUILDINGS

Issues

Once containing a greenhouse and a stable on the west edge, as well as a receiving tomb designed by George Wallis, the cemetery now has an office and service building on the east side that appear to date to the turn of the century, along with two open air pavilions. The receiving tomb and other buildings were removed for additional burial space. The office building is a small wood frame structure and the service building has a concrete block first story and wood frame second story. The latter is used for cemetery equipment storage. The 2 pavilions are generally in sound condition structurally but need urgent maintenance including new roof shingles, paint and general repairs.

The octagonal pavilion's rafters and rot resistant oak posts are in good condition but there is some animal and moisture damage in the seating and wainscoting supports. Some of the lattice work is loose and broken. Paint is flaking and peeling. Some old paint graffiti is located on the concrete floor and painted wood. There are 2 steps up at the 2 entrances to the concrete platform which is spalling at the edges. The other 6 sides have benches.

The square pavilion needs new valley flashing on the roof as evidenced by rot in the valley rafters and cracked concrete at the tie down anchors. Otherwise it is in good condition with some minor rust on the iron cross ties. There is 1 step up at the accessible side to the concrete platform. The other 3 sides have benches and railings.

Recommendations

Provide complete maintenance at the pavilions. Install new roof shingles and flashing. Replace loose and damaged wood elements. Paint entirely. Patch spalled concrete.

FENCES AND GATES

Iron Fences and Gates

Issues

The entire site is enclosed with iron picket fencing of different styles. The Washington Street edge is characterized by an iron picket fence set on a low curb while the Fuller Street edge has an iron picket fence set on top of a low stone retaining wall. The Woodlawn boundaries have picket fences characteristic of the Woodlawn perimeter and appear to belong to Woodlawn Cemetery based upon the location of fence supports.

Washington Street Fencing: The 4'-6" high fencing consists of 3/4" square pickets oriented 45 degrees to the direction of the fence with decorative spiral twists about midheight. The top and bottom rails are 2" x 2" angles. The pickets and rails are assembled in panels and attached to 1/2" x 2-1/2" stanchion bars with pointed tops. Panel lengths vary between 3'-5" to 6'-9", but average about 6'-0". At the entrance to the cemetery, where the fencing turns corners, the corners are anchored by decorative cast iron posts. Considering the total length of the Washington Street fencing, it is in fairly good condition overall, but there are individual sections or panels that need to be replaced or extensively rebuilt.

Three of the seven panels south of the main entrance are heavily corroded at the bottom. The corrosion affects the bottom rail and the bottoms of the pickets. The gates are missing at the main entrance. On the north side of the entrance there is some corrosion on the bottom tips of the pickets, but many of the pickets [about 20%] are bent or broken. Most of the damaged pickets here can be salvaged, but some must be replaced.

Once the fencing turns and runs down Washington Street, the bottom 14" has been buried in a concrete curb which changes the appearance of the fencing and has led to corrosion where the pickets enter the concrete. There is also some corrosion where the pickets meet the top rail. There is no other damage to the pickets or rails in the 17 panels between the cemetery entrance and the service yard. There are 19 panels running along the service yard that have been affected in one way or another by careless activities in the yard. Sections are leaning outward, pickets and rails are bent, rail connections are broken, and 3 or 4 panels are missing and replaced with chain link. The remaining 144 panels down to the corner of Washington and Fuller Streets have localized damage. The concrete curb height reduces to 6". Many of the top rails are modern replacements and several entire panels are new toward the north end of the fencing. The concrete curb is also damaged at 3 or 4 locations, especially near Sargent Street. It is obvious that road salt is attacking the concrete and metal and there are certain locations, such as at intersections, where salt spray may be more concentrated.

Fuller Street Fencing: The fencing style changes at the corner of Washington and Fuller Streets. The Washington Street fencing curves around the corner and terminates at a 30" square granite pillar. On the other side of the pillar, a low fence with curved, pointed pickets is mounted on top of the wall. The pickets are lightly corroded at the joints and several pickets are bent. About 5% of the fencing needs some repair. The gate has been replaced with a contemporary bar swing gate.

Recommendations

Replace severely damaged bent, broken, corroded and missing pickets, rails and stanchions. Provide continuing annual maintenance on the picket fencing to prevent corrosion from advancing. This should include annual cleaning and painting on a rotating basis, and repairs to any damaged pickets and curbing.

Consideration should be given to replacing both gates with replications of the historic gates based on historic photographs or drawings, if available.

Chain Link Fences

Issues

Located on the yard side the perimeter fence, there is a short segment of 8' high galvanized chain link along Washington Street near the maintenance building with green plastic privacy strips inserted into the fence to conceal the service yard from public view on the street. It is in fair condition.

Recommendations

Although it serves an important screening function, this fence is visually incompatible with the adjacent iron picket fence primarily because of the bright galvanizing and green plastic. The fence should be replaced with black vinyl coated posts and fabric, and matching privacy slats. Consideration should also be given to planting vines on it.

Wood Fences

Issues

Installed in 1994, a wood stockade type fence shields two sides of the service yard from public view inside the cemetery. A section of 8' high fence is unpainted, weathered and in good condition. An adjacent 6' high painted section is leaning and in fair to poor condition.

Recommendations

The wood fencing calls too much attention to itself for the screening function that it serves. It should be replaced with chain link fence as described above.

SITE AMENITIES

Signs

Issues

There are three relatively new wood identification signs, one at Fuller Street which appears older and two at the Washington Avenue main entrance where the cemetery name is also carved into the granite entrance posts. There are several different types of directional and avenue signs. The former tend to be painted wood hanging on wood posts and the latter are typically simple metal signs secured to trees. Most are in fair to poor condition. There are no informational or interpretive signs.

Recommendations

Directional and avenue signs should be replaced with a uniform system that compliments the historic nature of the cemetery. Informational and interpretive signs should also be added.

Trash Receptacles

Issues

Trash receptacles consist of a number of green painted 55 gallon drums.

Recommendations

Trash receptacles serve a necessary purpose in an active cemetery. The style should better compliment the historic nature of the site.

Seating

Issues

In addition to seating at the pavilions, there are 6 cast stone benches sited in various locations.

Recommendations

The existing benches are appropriate and no changes are recommended.

Flagpoles

Issues

This cemetery has 8 flagpoles. Six of them are steel, generally 20 to 25' high. Most exhibit some rust or have exposed galvanizing. An aluminum pole in the island near the American Legion Monument needs repairs at the base where the mosaic tiles are beginning to separate from the base. It appears in good condition otherwise. The wood flagpole at the U. S. War Veterans plot is about 20' high and needs to be scraped and painted.

Recommendations

Prepare, prime and paint the steel and wood flagpoles. Repair the mosaic tiles at the aluminum flagpole.

Planters

Issues

There are 2 painted wood half barrel planters near the square open air pavilion, 2 cast stone planters at the office and a few other small cast stone planters related to grave sites.

Recommendations

Except for the cast stone planters related to grave sites, all other planters should be removed in favor of flower beds which are more in character with the historic nature of the cemetery.

Cannon

Issues

The Phoenix Iron cannon at the GAR plot is painted black and in good condition. Some of the wood components are rotted and need replacement. The two concrete supports are painted white and need a fresh coat of paint.

Recommendations

Restore the wood components of the cannon, and clean and paint the concrete supports.

UTILITIES

Drainage

Issues

Most of the site surface drains toward the northeast corner of the site, the intersection of Washington and Fuller Streets. A few catch basins related to roadways are located primarily in the eastern third of the property.

Recommendations

There does not appear to be any problems with the current system and no changes are recommended.

Water Supply

Issues

Hose bibbs are provided throughout the cemetery.

Recommendations

No changes are recommended in terms of water supply.

Lighting





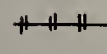



Issues

Except for security lights at each building, there is no night lighting in the site. There are street lights on the 2 perimeter streets and electric service has been provided to the square open air pavilion.

Recommendations

Do not provide additional lighting.

LEGEND

-  Existing Evergreen/
Deciduous Tree
-  New Tree
-  Remove Existing
Tree
-  Existing Stone Wall
w/Iron Picket
Fence
-  Existing Iron
Picket Fence
-  FP Flagpole
-  P Open Air Pavillion
-  Vehicular Entrance



NORTH

NOVEMBER 1999

1" = 200'

BY:

WALKER-KLUESING DESIGN GROUP, LANDSCAPE ARCHITECTS
JOYCE CLEMENTS, CONSULTING ARCHAEOLOGIST

SARA B. CHASE, PRESERVATION CONSULTANT

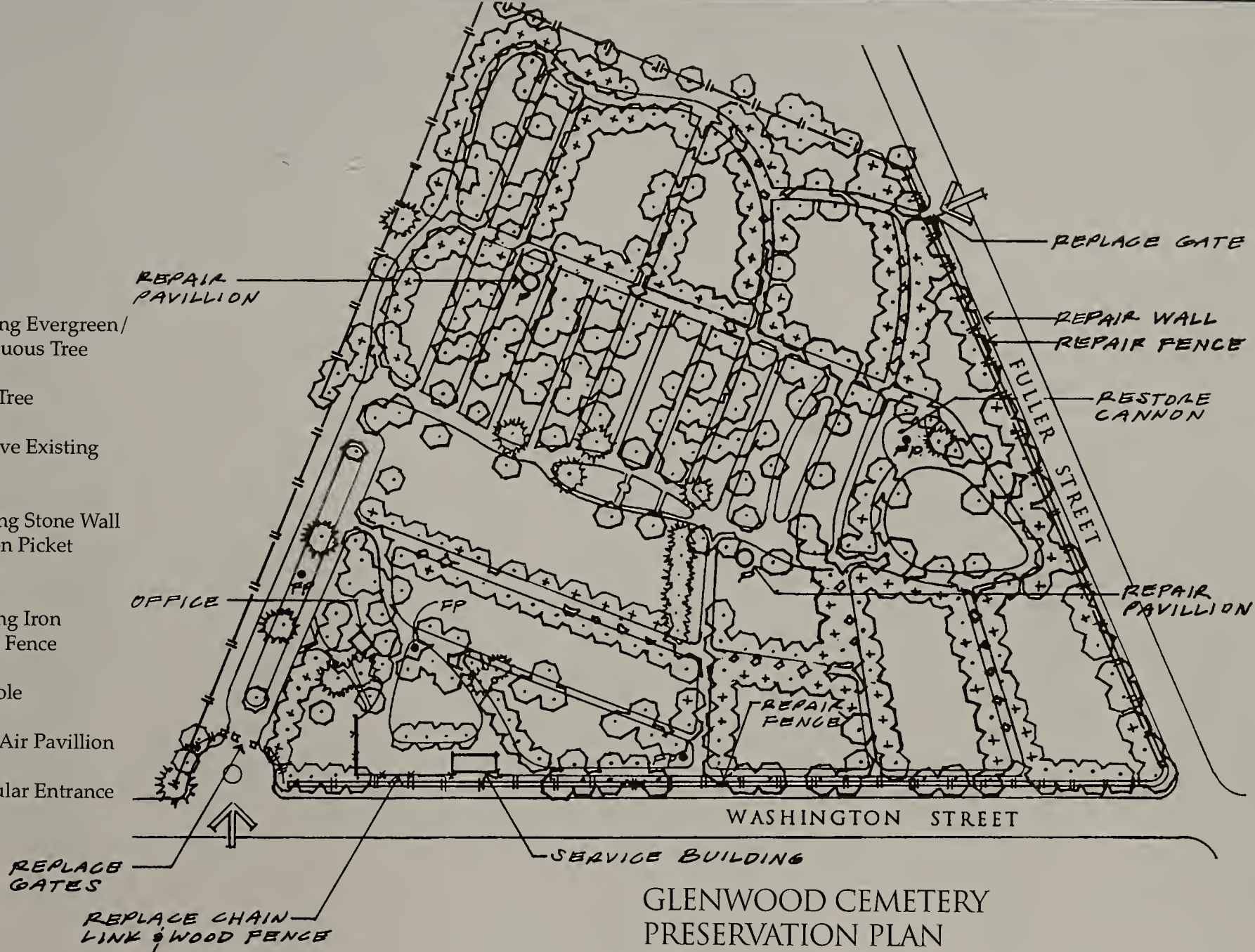
OCMULGEE ASSOCIATES INC., CONSULTING STRUCTURAL ENGINEERS
CARL CATHCART, CONSULTING ARBORIST

GLENWOOD CEMETERY PRESERVATION PLAN EVERETT, MASSACHUSETTS

PREPARED FOR:

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

MASSACHUSETTS HISTORIC CEMETERIES PRESERVATION INITIATIVE



PRIORITIES

High Priority

- Stone conservation including pin replacement in marble markers that are visibly cracked or spalled
- Marker foundation restoration
- Vegetative removals and pruning
- Perimeter fence restoration
- Repair of structural items like perimeter walls
- Pavilion repair
- Cannon restoration
- Lawn repairs

Medium Priority

- Stone conservation including marble markers with visible metal stains at the junction between marker and base
- Accessibility improvements
- Drive and edging repairs
- Chain link and wood fence replacement
- Directional and avenue sign replacement
- Repair of flagpoles
- Fertilization of trees
- Consideration of future options with this, the only public cemetery in the city, nearing capacity.

Low Priority

- Stone conservation including granite markers that have shifted or are leaning, and marbles currently in satisfactory condition
- Bronze restoration
- Replacement of deteriorated walks
- Additional walks to important destinations
- Informational and interpretive signs
- Trash receptacle replacement
- Additional planting
- Consideration of replacing gates.

*Volunteer growth,
East Parish Burial Ground, Newton*



GRAVE MARKER INVENTORY

GRAVE MARKER INVENTORY

A stone by stone inventory and cataloging of grave markers and monuments is a major component of protecting the irreplaceable resources and deteriorating conditions in a historic burial ground or cemetery. An inventory project is designed to:

Provide historic information and data on physical condition to the municipality that owns and is responsible for maintaining a burial ground or cemetery;

Aid in the development of an outline for a master plan for the conservation, site improvement, structural engineering and other maintenance issues concerning the site;

Serve as a planning tool for stone conservation and for other rehabilitation efforts such as path systems and interpretive signs and markers;

Provide a carefully documented record as a safeguard against vandalism and theft;

Provide public access to genealogical and other historical information recorded on the inventoried grave markers; and

Encourage and support community interest in a historic burial ground or cemetery.

Methodology

The inventory process involves four steps:

Preliminary Research

A search of available historical documents is conducted to locate earlier maps, lists of inscriptions and inventories. These sources are used throughout the survey to document existing markers in the burying grounds and to indicate markers of special historical, artistic or cultural significance.

Field Work

Field work includes the careful establishment of a numbering system for section divisions within the cemetery and an updating of the record maps produced by a municipality. Every grave marker including each headstone, footstone, tomb, tomb marker and monument is assigned a section letter and individual number. An inventory form is completed for each marker including location number, name and date information, type of marker and physical data including type of carved ornament and motives, materials, size and condition. In addition, verbatim transcriptions of all legible inscriptions are recorded on each of the inventory forms.

Supplemental Research

After completion of the survey forms, any historical records uncovered during the preliminary research phase can be consulted to supplement information for grave markers now damaged or partially missing. In addition, old records and epitaph collections can be used to complete inscriptions of stones that are sunken or fallen and which cannot be read in the field.

Indexing

The data collected through field work is computer recorded and sorted alphabetically by family name as well as chronologically by date of death and by location number. Every name recorded on a grave marker is separately entered into the computer indexing.

Description of Inventory Form

The following includes components of an inventory form developed specifically for Boston's historic burying grounds in 1983 and revised in 1985 to add a masonry conservator's expanded version of condition terminology. This form should be re-examined to insure that all pertinent information for each municipality is being recorded.

At the top of the form, the location/reference number specifies the precise location of the grave marker. The letter and number indicate section and grave marker number. For example, C-35 denotes that this marker is the 35th marker in section C. Training of inventory team members assures consistency in interpreting terminology and filling out forms.

Record Date: Date the form was prepared in the field.

Weather: Brief description of weather on recording day.

Examined by: Initials of recording team member.

Name: Name of interred. If a marker lists two or three names they are recorded here. If several names are specified on the marker, the earlier death dates or most prominently listed name[s] are recorded here and reference is made to reverse of the survey form for all additional names.

Date: Death date[s] as inscribed. Method of recording is similar to that used for Name.

Motif: Traditional decorative carvings found on Boston grave markers are listed on the form and are circled or checked off where applicable. These motifs include:

Skull [17th and 18th centuries]
Face [18th and 19th centuries]
Urn and willow [19th century]
None [no figurative elements]
Other [heraldic or other imagery]

Motives referred to on the form as primary are usually carved in the tympanum, the semicircular uppermost part of the gravestone. Secondary motives are displayed in conjunction with the primary image or elsewhere on the marker.

Border: The carved decorative margin around the inscription. [Typical is the leafy spiral border often displayed on Boston area grave markers.]

Elaborate: Unusual or rare decorative motives, sometimes including fruit and other naturalistic detail. This category also is used for foliate and other ornamentation executed with particular skill.

Simple: Curvilinear or geometric patterns.

Plain: Single or double enframing lines.

Other: Figurative elements, architectural forms and other designs not included in the above descriptions.

Carving: The condition of the carved decoration and inscription.

Mint: Sharp and clear. Inscription can be read easily.

Clear but worn: Edges are smooth, not crisp.

Mostly Decipherable: Areas are discolored or lost, but most of the inscription can be read.

Illegible: Inscription is substantially lost.

Type:

Headstone: The predominant type of grave marker usually displaying a full inscription and decorative carving.

Footstone: Usually smaller than headstones and may include only initials or a name and sometimes the year of death. Carved decorative detailing is infrequently apparent.

Tomb: Either an above ground or below grade structure which may include several chambers for multiple burials and often marked with a horizontal table top slab on a masonry base or by brick or granite walled construction.

Orientation: The direction the marker's primary carved surface faces. If a grave marker is horizontally placed, the direction noted is the one it would face if propped upright. For tombs, the slab's axis is noted, i.e. N-S or E-W.

Dimensions: Measurements for width are taken side to side at the widest point; height is measured from ground level to the highest point of the grave marker; depth is indicated as the thickness of the marker from front to back. Additional measurements for tombs and monuments also are recorded.

Bedding: Recording of stone bedding planes. Parallel bedding planes [i.e. slate] are indicated by the symbol + while the bedding planes at an angle to the surface are indicated by a /.

Plot Description: Description of the grave marker's immediate setting, i.e. grassy, bare, paved, etc.

Material:

Slate: A smooth grained stone with even bedding planes usually running parallel to the stone's face.

Granite: Granular looking with no discernible bedding planes. Generally gray with black, white and/or pink flecks. Often used for monuments and tombs.

Marble: White or gray-white, cool to the touch and often eroded. Marble is associated with 19th century headstones and monuments.

Sandstone: Tan or reddish-brown with a grainy surface, often eroded or flaking.

Other: Includes greenstone, a thick green-gray stone. Brick, concrete and metals also are recorded under this category.

Condition: These terms are used to describe physical condition and damage: Judgments concerning causes of damage or loss are not made.

Soiling: Surface deposits of fine particulate matter, generally dark in color, and modifying or obscuring the stone's appearance.

Stains: Discoloration by minute deposits of highly colored matter within the pores of the stone.

Efflorescence: White crystalline surface deposits composed of water-soluble salts.

Graffiti: Markings, typically paint, ink, chalk or crayon.

Biological Activity: Fungal or algae growth, mosses, vines or bird droppings.

Erosion: Gradual loss of surface material resulting in rounded and blurred edges of carving. In advanced stages, an overall granular "sugary" texture prevails and inscriptions become illegible.

Blistering: Swelling and often rupturing of a uniformly thin layer of stone [cf "flaking"].

Flaking: Detachment of a uniformly thin layer of stone.

Scaling: Advanced loss of stone of variable depth [cf. "Delamination"].

Delamination: Separation of relatively thick layers of stone among bedding planes. Early stages of delamination appear as fissures along the top edge and are recorded as "Cracks". Major detachment through this process is recorded under "Losses".

Cracking: Narrow fractures of variable length and direction.

Tilted/Fallen/Sunken: Significantly out of vertical alignment, i.e. more than 15 degrees, flat on the ground or partially buried.

Open Joints: Missing or defective mortar pointing usually associated with brick and granite tombs.

Fragmented: Broken or detached stones where the pieces still exist for reassembly.

Losses: Absence of original material as indicated by an incompleteness in form, decoration or inscription.

Other Damage: Other conditions not listed above [e.g. chipped edges] and mechanical effects such as lawnmower scrapes.

Previous Repair: Indications of earlier efforts of repair or restoration.

Photo Date: If applicable, date the stone was photographed. **Negative #:** Reference number for location of separately filed negative.

Reverse of Inventory Form

The inscription always is copied from the grave marker, i.e. HERE LYES Ye BODY of Mr. PAUL PRATT not Here lies the body of Paul Pratt.

Whenever necessary, any portion of the inscription buried beneath ground level is gently excavated.

Information derived from sources other than the grave marker's presently legible inscription, whether inferred from fragments or determined from research is displayed within brackets and the source is written on the form.

Sketches of the grave marker, whenever warranted by distinctive features or losses, are recorded on the form's reverse.

Remarks: Includes annotations or unusual circumstances not otherwise described, i.e. on site fragment[s], rare imagery, high artistic quality, etc. Probate data, notations of carver's initials, prices or practice "sketches" and other information also are recorded here.

Daily Work Schedule

Following orientation and training, members of the inventory team are assigned to specific sections of each burying ground. Inventory staff systematically check any available historical record plans for existing location accuracy. Missing stones are crossed out and new placements or changes in location are carefully added. The markers on the maps then are numbered consecutively and inventory forms for each are completed. Team members typically complete between 30 and 50 forms daily.

After each section is completely inventoried another team member rechecks the field map and inventory forms until the rechecking phase is completed. At this same time, fragment forms are prepared to indicate the location, material, dimensions, shape, inscriptions and motives, of all out of the ground marker fragments. Considerable care is taken to keep the batch of forms for each section in separate envelopes.

To ensure legibility of photocopies, only black non water soluble pens [e.g. ball point] are used. Equipment required for the inventory includes: a trowel for careful excavation of markers to recover below grade inscriptions, a soft paint brush for cleaning any surface soil interfering with inscription reading, an 8 to 10 foot retractable tape measure for marker measurements and location and a small hand mirror to reflect sunlight on shaded or worn inscriptions.

If funding permits, a photographic inventory can be added to record each marker and its identifying number [within the photograph]. Photos are then mounted directly on the completed inventory forms and the negatives filed separately.

SAMPLE GRAVE MARKER INVENTORY FORM

GRAVE MARKER SURVEY FORM Graveyard/Loc. ALMON JOHANSON RD
Brewster Hannah
 Last Name (Deceased) First George Loc./Ref.No. _____
 Death Date (Earliest) yr/m/d March 26, 1800 George - 2 Row/# in row A / 3
 Age _____ Record Date 7/28/92
 Weather Fine
 Examined by A.B. MC

Marker Type: HS fs Table Mon. T Other: _____
 Material: Slate Marble Sandst Granite Schist Other: _____
 Orientation: N S E W Other: _____
 Dimensions: (inches) H 24 1/2" W 22 1/2" Thick 1"

1st Motif:	2nd Motif:	Borders:	Carving:
1. Skull	1. Hourglass	1. Simple Vines	1. Mint
2. Face	2. Bones	2. Elab. Fruit/Flowers	2. Clear but Worn
3. Urn/Willow	3. Coffin	3. Geom. Shapes	3. Mostly Deciph.
4. None	4. Tools	4. Plain Line/s	4. Traces
5. Other	5. Other	5. Other	5. Illegible

Condition:

Soiling ☒ Stains _____ Graffiti _____ Efflor. _____
 Moss/Lichen ☒ Overgrown _____ Plot Descr. _____
 Tilted _____ Fallen _____ Sunken _____ (part./all insc. below soil)
 Chipped ☒ Mower Scars _____ Cracked ☒ Eroded _____
 Broken _____ # Frag. _____ Frag Loss _____ Clean Break/Weathered/Shattered
 Blistered (front/back) _____ Flaking _____ Scaling _____ Delamin. (top) _____

Previous Repair:

Fills/Replacements _____
 Adhesive Repair _____
 Reinforcing _____
 Coatings _____
 Enframement/Footing _____
 Other _____

Rating: 1 (excellent) - 5 (poor)
 General Condition 3
 Artistic Quality _____
 Historic Signif. _____

Repair Priority Index: ☒
 1 (high) - 5 (low)

Photo Date _____

Roll/Neg.# _____

Inscription: (Brackets [] indicate information from sources other than carved inscription, i.e., footstone information, old records, educated guess, etc.)

George Son of
Jonah Brewster died
March 26, 1800 in
The 2 year of his age
Nannah, daughter of
Elifha Brewster died
March 26 Son in The
3 year of her age

Fs 50" E of hs.

GB - written.
 HB - East Side

H 12" x W 16" 1" th
 Cond. Same as Tablet

Remarks:

Signed/Pract. Carving/Price on Base:

Probated:

ALTERNATE SAMPLE GRAVE MARKER INVENTORY FORM

Location: Old Burial Ground
 Location: Sturbridge, MA
 Record Date: 11/22/96
 Name: Plimpton, Mary
 Last First Middle
 Date of Death: September 9, 1841
 Marker Type: Headstone
 Stone Carver: _____

Orientation: (NW) S E W
 Dimensions: W 21 H 26 1/2 D 11 1/4
 (in inches)
 No. of People Commemorated: 1
 Negative: Roll _____ Photo _____
 Before: 2 30
 After: 7 12 #7-5
 Recorder: Famlin/Lehner

MATERIAL: 1 Slate 2. Granite 3. Marble 4. Sandstone 5. Schist 6. Other _____
 CARVED SURFACES: 1 Front 2. Back 3. Top 4. Side Panels 5. End Panels
 MOTIF: 1. Skull 2. Face 3. Urn/Willow 4. None 5. Other _____
 BORDER: 1. None 2. Simple Two parallel 3. Elaborate double lines 4. Motif _____
 CARVING: 1. Mint 2. Clear but worn 3. Mostly Deciph. 4. Traces 5. Illegible _____
 BASES: 1. Marble 2. Granite 3. Sandstone 4. Other 5. None _____

PREVIOUS REPAIR WORK: None evident
 1. Replacement Bases/Beds _____
 2. Adhesive Repair Various adhesive repairs, all failed
 3. Reinforcing _____
 4. Enframements/Footings/Beds _____
 5. Other _____

CONDITIONS:
 1. Sound _____
 2. Broken _____
 3. Fragments Three, 1/2
 4. Chipped Very sharp along edge
 5. Cracked _____
 6. Soiling Atmospheric
 7. Stains ferric
 8. Biological Activity Algae
Small amount of white lich
 9. Erosion/Sugar Decay _____
 10. Flaking/Discoloring _____
 11. Delamination none at present
 12. Fallen/Tilted/Sunken Backwards
 13. Losses _____
 Notes: _____



SAMPLE PERMIT FORM



The Commonwealth of Massachusetts
William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

DIRECTIONS FOR COMPLETING APPLICATION FORM

Organization: Give name of applicant organization

Contact: Name of person to contact concerning proposal

Cemetery: Give name of cemetery

Size: Give dimensions of cemetery

Owned or controlled by: Give name of owner of cemetery or town agency that has authority to provide access and approval for restoration project.

Earliest gravestone: Give earliest known or recorded date.

Before 1885: Total number of stones dated before 1885.

Designated landmark: Is cemetery a designated landmark of the Massachusetts Historical Commission? Yes ___ No ___

Cemetery condition: Indicate whether cemetery is abandoned, overgrown, vandalized, etc., and how many stones are broken or missing.

Proposed work: Circle all restoration tasks you are planning to undertake.

City or town acceptance of enabling act: City or town must give date of acceptance.

Project Approval: Indicate by check which agencies have approved project.

Project funded by: Give name of agencies, foundations, or persons providing funds and give total.

Technical assistance: Give name of persons or organizations who will provide technical assistance to project.

In-kind contributions: List agencies, organizations, or individuals making substantial in-kind contributions (sweat equity) to project and estimated total value.

220 Morrissey Boulevard, Boston, Massachusetts 02125 • (617) 727-8470
Fax: (617) 727-5128 TDD: 1-800-392-6090



The Commonwealth of Massachusetts
William Francis Galvin, Secretary of the Commonwealth
Massachusetts Historical Commission

APPLICATION FOR PERMIT TO RESTORE AND REPRODUCE GRAVESTONES

(See attached detailed instructions before completing)

Organization:

Date:

Address:

Contact:

Phone:

Cemetery:

Location:

Owned or Controlled By:

Size:

Earliest Gravestone:

Designated Landmark Yes ___ No ___

Cemetery Condition:*

Proposed Work:* (General Cleanup) (De-Soil) (Replant) (Clean Stones) (Repair Stones)

*Use additional pages if necessary.

Project Approval, Coordination, and Participation:

City or Town _____ Historical Commission _____ Other _____

Technical Assistance From:

Project Funded By:

Total:

In-Kind Contributions By:

Total:

Project to Start:

Completion Date:

220 Morrissey Boulevard, Boston, Massachusetts 02125 • (617) 727-8470
Fax: (617) 727-5128 TDD: 1-800-392-6090

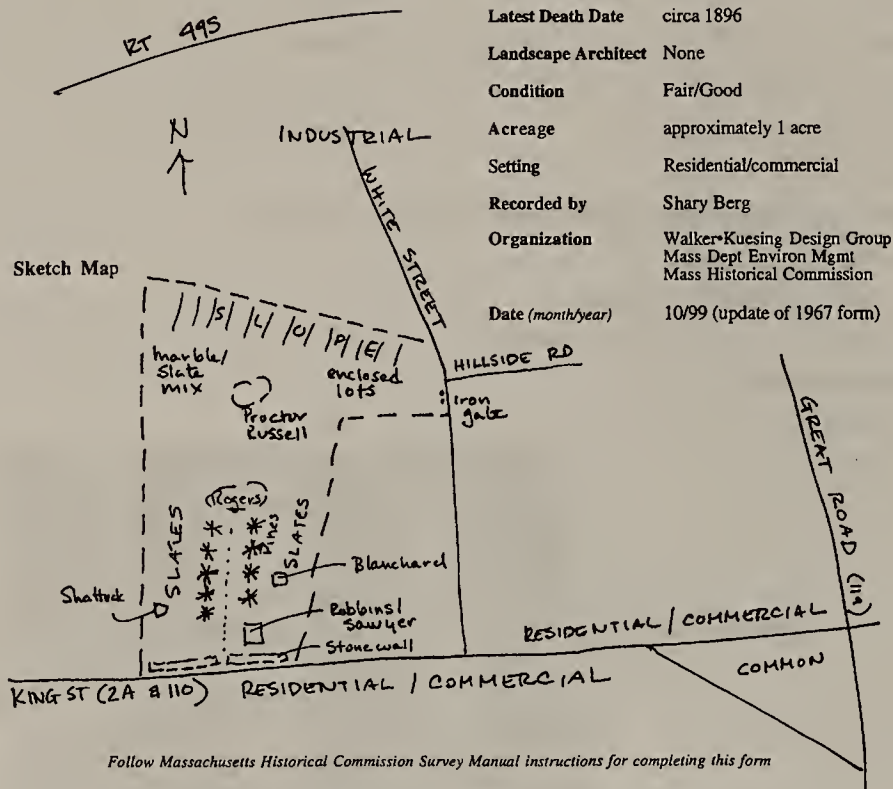
SAMPLE MHC FORM E

FORM E - BURIAL GROUND

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Photograph

roll negative
16055 t-9



Follow Massachusetts Historical Commission Survey Manual instructions for completing this form

Assessor's number USGS Quad Area(s) Form Number
U9-6 800

Town Littleton

Place (neighborhood or village) Town Center

Address or Location King Street near White Street

Name Old Burying Ground

Ownership ☒ Public ☐ Private

Approximate Number of Stones 200

Earliest Death Date circa 1721

Latest Death Date circa 1896

Landscape Architect None

Condition Fair/Good

Acreage approximately 1 acre

Setting Residential/commercial

Recorded by Shary Berg

Organization Walker-Kuesing Design Group
Mass Dept Environ Mgmt
Mass Historical Commission

Date (month/year) 10/99 (update of 1967 form)

INVENTORY FORM CONTINUATION SHEET

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Town Littleton
Property Address Old Burying Ground, King Street (Route 2A)

Area(s) Form No. 800

VISUAL/DESIGN ASSESSMENT

Littleton's Old Burying Ground is a tranquil oasis in an increasingly suburban community. An evocative remnant of the early history of the town, it is an excellent example of a small, well-preserved municipal cemetery which retains strong historical associations and distinctive landscape features and monuments dating from the mid-eighteenth century to the late nineteenth century. It is also the burial place of many of the town's notable early citizens.

The burying ground is prominently located one block west of the town common on the north side of King Street (Route 110 and 2A). The surrounding area includes some nineteenth century farm houses, including the adjacent properties. There is also some commercial development along King Street and industrial development to the north, with Route 495 a short distance beyond.

The burying ground is a long, narrow property which is organized in a traditional rectilinear pattern with earlier graves towards the front and more recent ones towards the rear. A central path running between a double row of mature pine trees forms the main circulation route through the cemetery. Most of the terrain is relatively level except for a small hillock located just beyond the alley of pines on which the Rogers monument is located. A smaller hillock with a marble slab on it is located further to the north. Beyond it, the land drops off sharply to a steep wooded slope. Although the pines are by far the most prominent and perhaps the only deliberate plantings, there are also scattered mature trees and some shrubs throughout the cemetery, especially along the edges. Two deciduous street trees have recently been planted in front.

One of the most visible and distinctive features of the burial ground is the 100' long dry-laid granite block wall along King Street. Massive rough-cut blocks form the vertical front face of the wall while the back is battered and made up of much smaller stones. A double cast iron gate of fairly simple design located at the center of the wall forms the main entrance. Low boulder walls of typical New England farm construction form the east and west boundaries of the cemetery, with a chain link fence along the northern edge. There is a fairly elaborate cast iron pedestrian gate at the rear along White Street opposite Hillside Road. It appears to be little used and is deteriorating.

Burial markers, of which there are approximately 200, fall into several categories. The oldest and most numerous, comprising over 2/3 of the total, are slates. These are primarily located near the front of the burying ground, typically in rows facing east. A few have footstones. Many of the slates display highly skilled and detailed carvings, with motifs ranging from early death heads to later urns, willows, angels and some geometric patterns. Further back are a relatively small number of mid-nineteenth century marble monuments, primarily slabs, with a few obelisks. Many of these have fading inscriptions.

The largest and most prominently sited monument is the granite Rogers obelisk, located on the hillock near the center of the cemetery, reflecting the importance of this early town minister. Other prominent monuments include the Blanchard monument, a granite obelisk near the eastern edge of the cemetery which commemorates a notable early family; the polished granite Robbins/Sawyer monument, located near the main entrance; the marble Proctor/Russell monument, located at the north end of the burying ground on

INVENTORY FORM CONTINUATION SHEET

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Town Littleton
Property Address Old Burying Ground, King Street (Route 2A)
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the smaller hillock and the Benjamin Shattuck monument, a small obelisk located at the western edge of the cemetery near King Street.

There are also some remnant lot enclosures, including rough-cut granite curbing surrounding the Robbins/Sawyer monument; several sets of granite posts with evidence of earlier chains; and a few family lots, also with granite curbing or remnants of iron fencing, which are located at the northern edge of the burying ground, reflecting the later years of its development. Two historical markers located along King Street commemorate the 19 Revolutionary War veterans reportedly buried here and the cemetery itself, one of the oldest sites in town.

HISTORICAL NARRATIVE

The town of Littleton was incorporated in 1714. Once established as a municipality, Littleton set about creating the necessary facilities, including a municipal burying ground. Unlike many communities Littleton chose not to locate its burial ground adjacent to the meetinghouse, which was located on what is now Maple Street at the common, but a short distance away. There is little record of the appearance of the burying ground prior to the late nineteenth century. Like most early New England cemeteries it was probably a rough field with a few graves marked by simple slate headstones. One of the earliest recorded improvements was a town vote of September 9, 1748 to fence the burying ground. It is unclear whether the current dry laid stone wall along King Street dates to this period or was a later improvement.

Due to the small population, which was 918 at the time of the Revolutionary War, there were relatively few burials during the eighteenth century. Among the notable early interments were many of the town's prominent settlers and 19 Revolutionary War veterans. A monument commemorates Luther Blanchard, the first man shot at the Battle of the Old North Bridge, and members of his family, but it is unclear whether he was buried in Littleton or Acton, as he had ties in both communities. Other distinguished persons buried here include the Reverend Benjamin Shattuck, the town's first minister, and the Reverend Daniel Rogers, the town's second minister, who served the community for 52 years.

There was reportedly an earlier burial ground known as the ancient cemetery or Nashoba burying grounds located on the Nashoba Plantation near the base of Nashoba Hill but it was later plowed up and cultivated as part of a working farm so nothing remains of it. The old burying ground on King Street is generally referred to as the first town cemetery. A second burial ground, now known as Westlawn Cemetery, was established by the town in 1801. Initially it was used for paupers and others who were not eligible to be buried in the municipal cemetery. Since around 1900 when the old burying ground became full, Westlawn has been the only active municipal cemetery in Littleton.

Littleton remained a small agricultural community through the first part of the nineteenth century. The advent of the railroad in 1844-5 brought a period of rapid growth followed by civic improvements. The mid-nineteenth century was also a period of changing attitudes about death and burial, with resulting efforts to beautify and improve the burying ground. In 1862 the Tree Association was formed with a

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mission of planting street trees in public ways. An article in the Littleton Historical Society Proceedings attributes the white pines in the burying ground to this group, which was only active until 1871.

Concern for the appearance of the town became a focus in 1904 with the formation of the Improvement Society. The iron gates at the cemetery entrance date to around this time, reportedly a donation from George Cheyne Shattuck, a descendant of the town's first minister. In preparation for the town's bicentennial in 1914, a \$50 expenditure was approved by the town for the restoration of footstones. There are also several postcards dating to this period, which show the cemetery much as it is today with mature white pines and rows of well kept slates.

The old burying ground received relatively little attention during the early part of the twentieth century, until when 1939 an appropriation was made for tree removal and monument repair necessitated by a major hurricane in fall 1938. The national bicentennial of 1976 prompted another round of improvements, including a historic marker, followed by ongoing efforts to preserve and restore the cemetery. Since 1991 a series of regular stone conservation workshops have been held to increase public awareness and repair damaged stones.

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National Register of Historic Places Criteria Statement Form

- ☒ Individually Eligible ☐ Eligible only in a historic district
☒ Contributing to a potential historic district ☐ Potential historic district

Criteria: ☒ A ☐ B ☒ C ☐ D

Criteria Considerations: ☐ A ☐ B ☐ C ☒ D ☐ E ☐ F ☐ G

Statement of Significance By: Shary Page Berg 10/99

The Old Burying Ground is a historically significant and highly visible property located on King Street one block west of the town common. The site possesses integrity of location, design, materials, workmanship, feeling and association, and meets National Register Criteria A and C on the local level with a period of significance extending from 1720 to 1900. The site may also have archaeological significance.

The Old Burying Ground meets Criterion A due to its unique and intimate associations with the early settlement and history of Littleton. Nineteen Revolutionary War veterans are buried here, as well as most of the town's prominent early citizens. The evocative character of the landscape, the types of burial markers, and their inscriptions and art work eloquently bring the early history of Littleton to life. This is especially important since the burying ground is one of the few surviving resources associated with Littleton's seventeenth and eighteenth century history. The burying ground and nearby town common are the constant elements around which the town center has developed.

The Old Burying Ground meets Criterion C as a diverse and well-preserved early graveyard that illustrates the changing funerary tastes of Littleton and its larger New England context. There is a large collection of well carved and well preserved early slate headstones and a smaller number of later monuments reflecting evolving funerary styles. There are also remnants of nineteenth century lot enclosures. The dry-laid stone wall along King Street is notable for the excellent craftsmanship of its construction. The presence of mature pines reflects nineteenth century efforts at beautification.

The Old Burying Ground meets Criteria Exception D because it contains graves of persons of transcendent importance to Littleton, their age, and their distinctive gravestone design and craftsmanship.

Urn and Willow motif,
Sleepy Hollow Cemetery, Concord



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